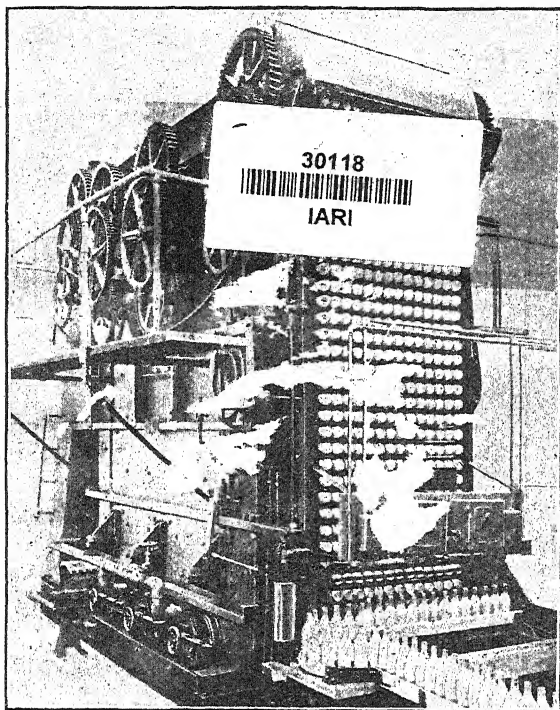




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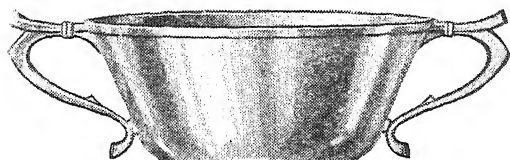
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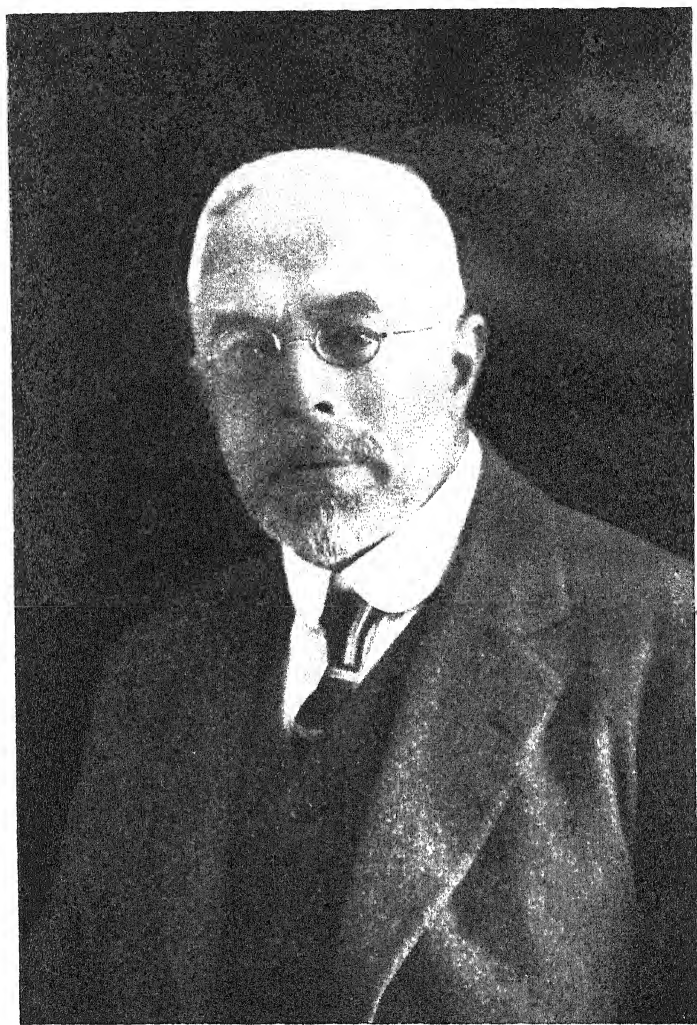
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The late SAMUEL R. WHITLEY, J.P.

MEMOIR OF THE LATE SAMUEL R. WHITLEY, J.P.

At his home, Rookwood, near Reading, Samuel R. Whitley died on June 25th last, after an illness of about a year.

By his death the Council and members of the British Dairy Farmers' Association lose a valued and much respected leader, friend and fellow-worker.

Samuel Rinder Whitley was the son of Mr. Nathan Whitley, of Halifax, and was a member of a family with a distinguished record of public service. He was educated at Clifton College with his brother, the Right Hon. J. H. Whitley, who became Speaker of the House of Commons. After several years of business experience, he became a keen student of Agriculture and gained valuable practical experience with Mr. W. C. Brown, of Appleby, Lincolnshire, and also farmed on his own account for several years at Lingfield in Surrey.

In 1913, he and his family moved to Reading, and for the remainder of his life, in addition to his work for the British Dairy Farmers' Association, he was closely associated with numerous social and philanthropic organisations in the town and district. He was a member of the Reading Board of Guardians, a Justice of the Peace for the Borough of Reading and the County of Berkshire, a governor of the Reading University College (now the University of Reading), and a member of the council of the Abbey School. He was a generous and wholehearted supporter of the Reading Council of Social Service and the Turners Court Farm Training Colony at Wallingford. He devoted much of his time to the development and management of the latter institution and the degree of his interest in it may be judged by his wish that after the funeral service his ashes might be scattered over one of the fields of the Colony's farm.

Members of the British Dairy Farmers' Association will, however, remember Samuel Whitley mainly by his life-time's work in connection with the Dairy Industry. Since 1896, when he became a member, he gave the advancement of dairy farming and dairying the closest study and spared neither time nor effort in furthering the science and practice of the industry. His experience of practical dairy farming, his knowledge of educational methods through his membership of the committee of the British Dairy Institute, and his close association with the National Institute for Research in Dairying, together with his ripe judgment, independence of mind, and enthusiasm of spirit, made him eminently fitted for leadership.

A brief record of the positions he occupied shows that his fellow men recognised his exceptional qualities and were proud to trust and follow him.

To many throughout the British Isles, the Dominions and countries abroad where dairying occupies an important place in the national economy, Samuel Whitley was known by reason of his work for the British Dairy Farmers' Association. He was elected a member of the council in 1901; from 1901 to 1908 he was one of the judges of the Dairy Show milking trials; in 1908 he was appointed chairman of the Show Committee, and for the last 17 years held the most responsible position in connection with the Dairy Show—that of steward of general arrangements. In 1924 his colleagues showed their respect and their gratitude for his unselfish and tireless labours by adding his name to the honoured roll of vice-presidents of the Association. He was also a representative of the Association on the committee of the British Dairy Institute, and his deep interest in providing the best educational facilities for the students made him a valued member.

When the National Institute for Research in Dairying was established at Reading he at once realised that a further important step had been taken for the development of the dairy industry and for the welfare of the rising generation. He supported the work of the Institute in a most wholehearted and self-sacrificing manner and gladly undertook the rather thankless duties of honorary treasurer. By example, invitation and persuasion he worked for the success of the Institute, and many who will long remember his enthusiasm for a cleaner milk supply will also never forget that the basis of his earnestness was his conviction that the children of this country must have the best and purest supply to aid them to grow up healthy in body and mind.

Abroad, Mr. Whitley was well-known through his leadership of British Dairy Farmers' Association conferences and tours, and his ability to guide and control a large party in a gentle yet compelling manner led to the British National Union asking him to undertake the leadership of the tour to New Zealand and Australia in 1930. In many other ways he did his utmost to serve the industry he loved. He was known to be fearless and honest in his judgment and opinions, and to be actuated always by the highest of motives. His friends will always remember his enthusiasm for good causes, his capacity for work, his enjoyment of play and his sincere desire to be helpful to his fellow men. He was successful beyond his own realisation.

THE PROGENY TESTING OF DAIRY BULLS

By JAMES MACKINTOSH, O.B.E., N.D.A., N.D.D.

In 1920 I contributed an article on the "Breeding of Dairy Cattle for Milk Production" to the Journal of the Ministry of Agriculture ⁽¹⁾ in which attention was drawn to the importance of judging the breeding value of dairy bulls by the milk records of their progeny, and by a comparison of the yields of the progeny with the yields of their dams. In support of this point of view the milk yields of the daughters of two bulls which had been used in the Dairy Shorthorn herd of the University of Reading were given and compared with the yields of their dams and it was shown that one bull had maintained the yield of the herd whereas the other had brought about a decrease in the yield. The better bull, however, had been slaughtered before his real merit was discovered and this led the writer to emphasise the need for the retention of promising bulls until their daughters came into milk and could provide reliable information on the breeding value of their sire.

Since 1920 the principle involved in progeny testing has been the subject of many articles and discussions and in 1933 the Central Council of Milk Recording Societies formulated a scheme whereby information could be collected regarding the milk records of the daughters of bulls used in the herds of members. The general principles which should govern a scheme for the progeny testing of dairy bulls have also been outlined and discussed by Edwards and Hunter Smith in the Journal of the Royal Agricultural Society for 1932 ⁽²⁾ and in the same article the progeny test results of 51 sires are given; again evidence is forthcoming to show that numerous bulls were slaughtered before their value was realised.

The Basis of a Progeny Test.—It is a simple matter to state the general proposition that the breeding value of a dairy bull should be judged by the milk records of his daughters, but it is by no means so simple to carry out the actual judgment. The information required to enable a decision to be arrived at cannot be collected under the controlled conditions of a scientific experiment; it must be obtained from the herd records of the owner of the bull over a period of time which may extend to two or three years and must be reliable on many points of fact.

Edwards and Hunter Smith and others have enumerated the various factors which have a definite bearing on the conduct and interpretation of progeny tests and the following require consideration:—(1) identification of the daughters; (2) reliability of the milk records; (3) definition of lactation period; (4) adjustment of lactation yields for age; (5) adjustment of lactation yields for length of dry period and service period; (6) adjustment for frequency of milking; (7) variation in management conditions; (8) number of daughters' records required; (9) consideration of the yields of the dams; (10) consideration of the quality of the milk and (11) the breed type and conformation of daughters.

The above list is rather terrifying yet little thought is needed to show that each of the above points has a bearing on the question under discussion.

We must be sure that the parentage of the daughters is beyond dispute, hence each daughter must have been registered soon after birth with a breed society or a milk recording society; the milk yields must be checked by a properly constituted milk recording society and the lactation period must be an agreed number of days after calving. Adjustment of yields to the estimated yield at maturity is required to permit fair comparison of animals calving at various ages and, fortunately, the required "age-correction factors" are easily available. Similarly, correction factors for abnormal dry periods and abnormal periods between calving and service are available, but their use would lead to great complexity and Edwards and Hunter Smith after careful study conclude that they may be omitted. Whether cows are milked twice or thrice daily affects the lactation yield and "correction factors" are already employed by at least one breed society. No authoritative body, however, has suggested the adjustment of yields for frequency of milking in progeny tests and where all the daughters and dams concerned have been milked twice daily, the need for such adjustments does not arise. The standard of general management varies considerably from herd to herd and climatic and soil conditions also influence the milk yield but these factors are so variable and incapable of measurement that no system of adjustment of yields can be advocated. Where all the milk yields under consideration have been made in the same herd under similar management, comparisons between dams and daughters or between groups of daughters from different bulls can be made with greater justice. The number of daughters' records required to provide sufficient proof of their sire's dairy qualities has been much discussed, together with the need for an *unselected sample* of daughters. In the progeny testing schemes in practice in other countries, as a rule the records of at least six unselected daughters are required with the proviso that as many more as possible should be collected. The amount of attention

which should be paid to the yields of the dams of the daughters has not yet been decided; some students of this subject contend that the daughters' yields must be compared with the dams' yields to enable a fairer estimate to be made of the influence of the sire; others say that the yield of a dam does not give much indication of the productive powers she will transmit to her progeny and that the average yield of the daughters, independently of the yield of their dams, is a more reliable measure of their sire's milk breeding powers. The fat percentage of the milk yielded by a group of daughters should also be considered, because high yields of low quality milk are a doubtful blessing. Some breeders also strongly emphasise the need for considering the breed type, conformation and shape of the udder of the daughters as well as their milk yields in assessing the merit of their sire. The importance of a "good wearing udder" is great and there is undoubtedly a risk in attempting to judge breeding value by qualities shown on paper without looking at the progeny themselves.

The owner or manager of a dairy herd carrying on the routine work of milk production, rearing of young stock and breeding who has read thus far in this article, may be pardoned if he considers the treatment of the subject, however interesting, to be academic and lacking touch with the practical aspects of herd management. On many occasions in recent years, when the pros and cons of progeny testing have been under discussion, I have felt that progress towards the drafting of a scheme suitable to the needs of the British dairy farmer would be stimulated by a description of what actually happened to the progeny of a number of bulls. Every breeder *knows* what happens yet details as to the number of calves got by each of a group of bulls, the proportion of each sex, the proportion of cow calves reared to breeding age, the proportion of heifers actually calving down in the herd and the milking history of these, even for only the first lactation, have not been available to provide a basis for discussion and to indicate the practical difficulties likely to arise in the operation of a progeny testing scheme.

The remainder of this article will consist of a presentation and discussion of information on these points, collected from the records of the Institute's herd from October, 1920 to October, 1933, in order to give a more complete picture of the process of progeny testing.

Formation of the Herd.—In October, 1920, the National Institute for Research in Dairying obtained possession of a farm and since that date it has been one of my duties to build up and supervise the management of a Dairy Shorthorn herd. The general policy has been to build up a herd of home-bred stock with good milk yields, a high health standard and of good breed type. The tuberculin test was applied at six-monthly intervals from April,

1923 and a Grade A (T.T.) milk licence has been held since May, 1923. Pedigree Dairy Shorthorn bulls were carefully chosen and the grading-up system to qualify for entry into Coates' Herd Book was followed. During the thirteen years between October, 1920 and October, 1933, careful records have been kept of the breeding and of the yield and quality of the milk of each home-bred animal.

The formation of the herd proceeded slowly at first. During the first month only a few heifers actually in milk were purchased because of the limited cowshed accommodation available and those bought had been reared on the farm by the former owner. Later a few cows and heifers of known breeding were purchased from the University of Reading herd, also lots of yearling and two-year-old heifers were bought at a farm sale and several lots of heifer calves were bought for rearing. After 1922 only a few more heifers from the University herd were bought and since 1925 none but home-bred females have been brought into the herd. For fully a year after obtaining the farm, all cows and heifers were sent for service to the University Farm. The first bull owned by the Institute was purchased in December, 1921, and other bulls—all pedigreed Dairy Shorthorns—were bought afterwards as thought desirable.

Number of Calves by each Bull and their disposal.—The breeding records of four bulls are dealt with in this article and the number of calves got by each bull, the proportion of each sex and the fate of the heifer calves are summarised in Table I. The first of these four bulls—L.D.—was the property of the University and only the progeny of this bull actually born on the Institute's farm are taken into account in this table; others bought from the University are included later. The second bull—B.B.—was bought in December, 1921 and used for three years. The third bull—K.F.—was bought in October, 1923 and is still in use but the numbers given in Table I includes only the progeny born up to the end of December, 1929. The fourth bull—I.R.V.—was bought in November, 1924, and used for two years.

The details given in Table I show that the four bulls sired 260 calves during the period stated; of these 124 were females, giving a ratio of 1 cow calf to 1.1 bull calves, but in the progeny of L.D., 62½ per cent. were cow calves, whereas with I.R.V., only 31¼ per cent. were cow calves. A total of 8 cow calves were born dead (including one case of premature birth) hence 116 were available for rearing. After deducting the number dying between birth and first calving (2 in all) and the number sold before service (21 in all) it is found that 93, or 80 per cent., were available for breeding. Of this number 6 (including 1 heifer twin with a bull) failed to breed, leaving 87, or 93½ per cent. of those available for service, which actually had calves. A further analysis shows that of this

number 5 were sold at calving and 19 did not have their milk yields recorded for the complete first lactation, leaving 63 (or about 55 per cent. of the cow calves born alive) for which a complete first lactation record was available.

TABLE I.

SUMMARY AND CLASSIFICATION OF ALL CALVES BY FOUR BULLS—
1922-1929.

BULLS.

Classification of Calves.	L.D.		B.B.		K.F.		I.R.V.		Total.	
Total Calves Born	24		74		114		48		260	
No. of Times Twins	Once		Twice		Twice		Nil		Five	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
No. of each Sex	9	15	35	39	59	55	33	15	136	124
No. Born Dead	—	1	1	1	2*	3*	—	3	3	8
<i>Cow Calves only</i> No. Born Alive ...	14		38		52		12		116	
No. Dying from Birth to Calving	1		—		—		1		2	
No. Sold before Service	1		13		6		1		21	
No. Kept for Service	12		25		46		10		93	
No. Failing to Breed	2		2		1†		1		6	
No. having Calves	10		23		45		9		87	
No. Sold at Calving	—		5		—		—		5	
No. not recorded for full 1st Lactation	1		4		13		1		19	
No. Recorded for full 1st Lactation	9		14		32		8		63	

*One premature birth included.

†Twin to a bull.

Table I also shows the fate of the cow calves by each of the four bulls and some further comments are desirable. In the absence of comparative figures for the proportion of calves born dead and dying between birth and calving under normal conditions of management, no comments can be made under these heads, beyond the statement that a good health standard was maintained throughout the period under review. The sale of an appreciable number of heifers by B.B. and K.F. before service was due to the unsatisfactory type (some showed evidence of cross-breeding) and milk yield of their

dams which had been bought as heifers and calves in 1920 and 1921. The proportion which failed to breed may be high or low—no published basis of comparison is available. Of the heifers which bred it will be noted that 5 were sold at calving; these animals were not retained for various reasons, such as undesirable type, badly shaped udders or simply because they were surplus to the seasonal requirements of the herd. Further, 4 heifers by B.B., 13 by K.F. and 1 by each of the other bulls were not recorded for the whole of their first lactation period for two main reasons; four could not be admitted to the herd because they failed to pass the tuberculin tests required by the Ministry of Health, and the remaining 13 were so disappointing milkers that after a period of weeks, hand milking was stopped and the heifers were fattened or used for the suckling of calves.

A consideration of the information contained in Table I from the standpoint of progeny testing emphasises, firstly, that the rate of progress will be dependent on the number of cow calves born and reared, and secondly, that it is not an easy matter to get a group of *unselected* daughters. On the first point the number of cow calves born will be dependent on the size of the herd as well as the "chances" in favour of females. On the second point the sale of yearlings and two-year-olds is a perfectly legitimate and normal part of the herd owner's business and schemes of progeny testing must allow for such transactions. It is highly probable that the heifers sold at these early stages will not be judged amongst the best of their sire's progeny but the possibility of even the breeder being mistaken in his estimate of their future milk producing powers is so great that such sales may well be left out of consideration so far as the groups of daughters required for a progeny test are concerned. The daughters which are kept in the herd until near or after calving but are then sold or are not recorded for more than a few weeks, raise a much more difficult problem which will be considered at a later stage. The result of this survey of the breeding records of the four bulls so far has shown that the number of daughters which calved and were milked for some period of time and the number of calves which were born alive was as follows:—
L.D.—10 out of 14; B.B.—16 out of 38; K.F.—44 out of 52 and I.R.V.—9 out of 12.

COMPLIANCE WITH PROGENY TEST REQUIREMENTS.

The next stage is to consider to what extent the information available regarding the daughters of the bulls affords suitable material for a study of progeny test methods in view of the different requirements which must be met and the conditions which must be fairly interpreted as set out on pages 12 and 13.

Identification of the Daughters.—All the daughters were ear-marked shortly after birth according to the calf-marking scheme of the Ministry of Agriculture, and also ear-notched for greater ease of identification. No difficulty occurred in this respect.

Reliability of the Milk Records.—The milk yielded by each cow was weighed daily and checked periodically by the recorders of the Berkshire Milk Recording Society.

Definition of Lactation Period.—The full lactation records for the 63 daughters are available, also the yields for periods of weeks of a number of the daughters which suckled calves during the later part of their first lactation period. Because all the cattle studied are Dairy Shorthorns the lactation yields tabulated later are the yields which would be recognised by the Dairy Shorthorn Association, namely, the yields given in a period not exceeding 315 days, excluding the first 4 days, after calving. Also, only *lactation yields after the first calf* are tabulated and considered, because, in the normal procedure of progeny tests, an effort will be made to gauge the value of bulls on the earliest obtainable yields of their daughters.

Adjustment of Lactation Yields for Age.—The fact that the milk yield is greatly influenced by the age at calving is widely recognised and as it is impossible to arrange that a group of daughters shall all calve at the same age, the practice of adding a percentage to the yield to obtain an estimated yield at maturity is widely recommended. Such percentages are usually known as “age-correction factors” and Sanders (³), after a careful study of data supplied by English milk recording societies, has suggested the following correction factors for yields after the first, second, etc., lactations :—to the first lactation yield, add 30 per cent. ; to the second, add 18 per cent. ; to the third, add 10 per cent., and to the fourth, add 4 per cent. It will be noted that the above corrections are suggested for lactation yields, irrespective of the age at calving. Sanders himself points out that “for administrative purposes, of course, the age of the cow, and not the number of lactations she has had, must be the basis ; corrections for that, however, can readily be obtained by reading 3 years old for the 1st lactation, 4 years for the 2nd and so on.” (⁴)

The age at first calving was known accurately for all the daughters considered in this article (and for most of the dams) and as there is reason to believe that the factors suggested by Sanders need slight amendment for Dairy Shorthorns, an amended set of factors have been devised and applied. These are given in Table II.

From time to time breeders have expressed doubts as to the validity of such factors. An attempt has therefore been made in Table III to show to what extent the maturity yields calculated from

the first lactation yields by the factors given in Table II, agree with the actual yields at maturity of groups of daughters. The maturity yields are the actual yields in 315-day lactation periods after the 4th 5th and 6th calves in so far as such records are available.

TABLE II.
AGE-CORRECTION FACTORS USED TO GIVE MILK YIELD AT MATURITY.

Age at Calving.							Percentage Added.
Under 2½	years or	Under 2 years 92 days	...	...	...	...	45
2½	"	" 2 years 92 days to 2 years 273 days	...	...	...	...	40
3	"	" 2 years 274 days to 3 years 91 days	...	...	...	...	35
3½	"	" 3 years 92 days to 3 years 273 days	...	...	...	...	30
4	"	" 3 years 274 days to 4 years 91 days	...	...	...	...	25
4½	"	" 4 years 92 days to 4 years 273 days	...	...	...	...	20
5	"	" 4 years 274 days to 5 years 91 days	...	...	...	...	15
5½	"	" 5 years 92 days to 5 years 273 days	...	...	...	...	10
6	"	" 5 years 274 days to 6 years 91 days	...	...	...	...	5
Over 6½	"	" Over 6 years 91 days	...	...	...	...	0

The bottom line of Table III shows that the average actual yield for 25 first lactations was 7,200 lbs.; that the use of the appropriate age-correction factors gave an average maturity yield of 9,770 lbs. and that the actual average maturity yield was 9,926 lbs. The difference between these results is only 156 lbs. or less than 2 per cent.

When the results for the progeny groups of the different bulls are studied, an illustration in figures is obtained of the fact realised by many breeders, namely, that the rate of maturing of the progeny of one bull is different from that of another. Thus the actual maturity yields of L.D.'s daughters are some 16 per cent. higher than the calculated yields; those of B.B. show a divergence of less than 1 per cent., while those of K.F. are 9 per cent. below the calculated yields. The logical conclusion from these results is that slightly different correction factors should be used for the progeny of each bull, but this would be impracticable, and where the factors used are shown on the average to give so close an approximation to the actual yields, they may be applied with confidence to obtain average results. If, however, the correction factors are applied to the 1st lactation yield of one heifer and the age corrected yield thus obtained is used alone, it may be so far out as to be seriously misleading.

Adjustment of Lactation Yields for Length of Dry Period and Service Period.—Sanders has worked out correction factors for abnormal dry periods and service periods (length of time between calving and effective service) but these factors have not been applied in this study for two reasons—the use of them would add greatly to the complexity of the progeny testing and Edwards and Hunter Smith have shown that on the average they tend to cancel out each other.

TABLE III.

COMPARISON OF AGE-CORRECTED MATURITY YIELDS WITH ACTUAL YIELDS.

Sire.	Daughter.	Age at 1st Calving	*Actual Milk Yield	Cor-rection Factor	*Calculated Maturity Yield	Actual Maturity Yields *in		
						4th lact.	5th lact.	6th lact.
L.D.	Doll 2nd ...	Yrs. Dys. 2-332	5923	35	7996	9782	12082	7556
	Firefly 2nd ...	2-251	5439	40	7615	7317	10132	11683
	Carlet 1st ...	2-349	5699	35	7694	10288	—	—
	Flora 1st ...	2-356	6409	35	8652	8776	11764	12066
	Winnie 2nd ...	3-75	8215	35	11090	13041	—	—
	White Rose ...	2-237	7048	40	9867	8931	—	—
	Rosebud ...	3-1	6228	35	8408	8525	8689	11674
	AVERAGE ...		6423		8760	10154		
	Pearl 1st ...	2-256	7646	40	10704	9371	11689	11513
	Flora 2nd ...	2-345	8129	35	10974	10848	—	—
B.B.	Patricia ...	3-85	8920	35	12042	11217	12482	10979
	Clara 1st ...	3-0	8124	35	10967	11060	10223	6234
	Winsome 2nd ...	3-9	7668	35	10082	8319	11960	7107
	Winsome 3rd ...	2-354	6970	35	9410	9366	12632	—
	Flora 3rd ...	2-329	6707	35	9054	10033	9814	9532
	Lottie 2nd ...	2-351	6592	35	8899	9216	—	—
	AVERAGE ...		7560		10266	10189		
	Peach 2nd ...	2-226	8541	40	11957	8591	8614	6471
	Flora 5th ...	2-206	8300	35	11327	12627	—	—
	Patsy ...	2-105	6302	40	8523	12031	—	—
K.F.	Flora 6th ...	2-334	8378	35	11310	13632	10628	—
	Flora 4th ...	3-259	9020	30	11726	9251	—	—
	Rosalie 1st ...	2-174	7343	40	10280	8458	—	—
	Campion 2nd ...	3-115	6110	30	7943	8045	—	—
	Lily 3rd ...	3-9	7362	35	9939	8385	—	—
	Peach 3rd ...	3-115	7744	30	10069	8072	—	—
	AVERAGE ...		7688		10375	9400		
	Gertie 3rd ...	2-243	5300	40	7420	7824	—	—
	FINAL AVERAGE ...		7200		9770	9926		

*In this and all other Tables, Milk Yields are given to the nearest pound.

Adjustment for Frequency of Milking.—All the daughters and their dams included in this study have been milked twice daily during their first lactation periods, hence no adjustment for frequency of milking is necessary.

Variation in Management Conditions.—All the daughters and the majority of the dams were home bred and were reared and managed under conditions showing little more than the normal variations from year to year. The yields, therefore, are much more comparable than if the daughters had completed their first lactation in different herds.

Consideration of the Fat Percentage.—Since January, 1922, samples of the milk of all cows have been taken on three successive days (six milkings) each calendar month, tested by the Chemical Department of the Institute and the average fat percentage for each lactation period has been worked out. Samples have also been taken regularly and tested under the auspices of the Berkshire Milk Recording Society but as the three-day-monthly samples give more reliable results, the lactation period averages obtained from them are given in addition to the lactation milk yield. Since January, 1924, the percentage of solids-not-fat has been determined monthly for each cow, and the lactation period averages are included where available.

Breed Type and Conformation of Daughters.—On these points no attempt has been made to obtain the opinion of outside judges in a systematic manner. My colleagues and myself have naturally formed our own opinions as to the relative merits of the daughters of the different bulls and our views may be briefly given. The daughters of L.D. were well grown at 3 years old with good frames and strong bones; their udders were of good shape and moderate size and with strong muscular attachment to the body so that they did not become pendulous until after 5 or 6 years of work; the teats were of good size and shape and well placed. Some of the daughters became patchy at the hindquarters and others remained smooth fleshed throughout their lives; all gained in condition readily when dry. B.B.'s daughters did not grow to the same size and weight and were finer in bone, with less spring of rib. The udders, as a rule, were good and of fine texture, but the muscular attachment to the body was weaker and a number of the daughters had to be disposed of after 3 or 4 calves because of faults arising mainly from a pendulous udder. They also did not improve in condition so easily when dry.

The daughters of K.F. grew into large shapely cows, with good middles and bone of fine quality. The chief common feature was the excellent type of udder, although in a few instances the fore teats became too long for convenient milking. They improved in condition when dry more easily than the daughters of B.B. but not so quickly as those of L.D. The daughters of I.R.V. showed two types; a few were compact cows of medium size with short legs and well sprung ribs; others were large, rakish cows, rather long in the leg and lacking symmetry over the hind quarters. The udders were good but inferior in shape and balance to those of B.B.'s and K.F.'s daughters. Generally speaking, the daughters of K.F. attracted the attention of visitors to the greatest extent as embodying the features of a good dairy cow.

The general standard of the herd as regards breed type and uniformity is perhaps indicated most clearly to readers by its record in the "Large Herds" competition of the Berkshire Milk Recording Society from 1926 to 1932. This is as follows:—1926-27—7th place in 11 entries; 1927-28—2nd in 6 entries; 1928-29—1st in 7 entries; 1929-30—2nd in 4 entries; 1930-31—not entered, and 1931-32—1st place in 6 entries. In 1930 also, the herd was placed second in the open class of the Royal Counties Agricultural Society's Herd Competition. These results show the general merit of the herd more conclusively than successes at shows with a few individual animals would do.

Number of Daughters Yields required.—In Table I the number of daughters from each of the bulls mentioned was shown and on page 12, attention is drawn to the requirement that the group of daughters used to indicate or prove the dairy merits of their sire must be *unselected*, that is, the group must not be made up only of those which gave good yields. The immediate problem is "How many daughters will form an unselected group of sufficient size to give a reliable indication of their sire's value"?

Table I shows that the cow calves from any bull may be grouped into four classes:—

- (a) those which are sold before service.
- (b) those which are sold at calving.
- (c) those which calve in the breeder's herd but are not recorded for the complete first lactation, and
- (d) those which calve in the breeder's herd and are recorded for the complete first lactation.

If we were conducting a scientific experiment *all* the cow calves which grew up and bred would be retained and milked whether they were good or bad, but such a procedure is impossible under practical farming conditions. The owner must be free to sell heifers at any age and, as it is impossible to tell with certainty before calving whether a heifer will or will not be a good milker, it may be accepted that the sale of heifers before service does not constitute selection of such a nature as to interfere with a fair progeny test. Heifers which are sold at calving may be disposed of because they show little signs of developing into good milkers, because of some defect of body or udder shape, because of their breeding or because they are surplus stock. Their sale constitutes selection to a certain extent but where the proportion sold at this stage out of the first lot of daughters to calve down is small, it is highly probable that such sales do not interfere materially with the accuracy of progeny test results. It is, however, desirable that the number or proportion so sold should be stated.

Those heifers which calve down and are milked for some weeks or months and then used for suckling calves or dried off quickly and fattened, must also be taken into account. Two courses may be followed—a full lactation yield may be estimated from the few week's yields which are known and this yield averaged with complete lactation yields or a statement may be made that no record is available because the heifer in question suckled calves or was dried off because she did not show sufficient promise as a milker, or for some other reason.

Table I also shows that there were 19 daughters of the four bulls which fall into this category, and in Tables IV to VII, details are given of these and the 63 which completed their first lactation periods, so that we may study the subject further from the actual records.

TABLE IV.
DAUGHTERS OF L.D. IN ORDER OF CALVING.

Name.	Date of First Calf.	Age at First Calving.	Actual Milk Yield.	Age C.F.	Age Cor. Milk Yield.	Actual Fat.	Actual Weight of Fat.	Actual S.N.F.
		Y. D.	lbs.	%	lbs.	%	lbs.	%
Cissie 2nd ...	17 Apr. '24	2—103	4423	40	6192	3.56	157	8.92
Doll 2nd* ...	3 Oct. '24	2—332	5923	35	7996	3.83	227	9.23
Rosie 2nd ...	10 „ '24	2—209	{ Recorded for 35 days, averaging 13 lbs. per day, }					
			{ reacted, then suckled calves. }					
Firefly 2nd ...	18 „ '24	2—251	5439	40	7615	3.77	205	8.92
Carlet 1st ...	20 „ '24	2—349	5699	35	7694	3.35	191	9.12
Flora 1st ...	19 Nov. '24	2—356	6409	35	8652	3.40	218	8.94
Winnie 2nd ...	31 Aug. '25	3—75	8215	35	11090	4.20	345	9.20
Countess 4th*	28 Sept. '25	3—157	2933	30	3813	4.07	119	9.04
Lily 2nd ...	9 Oct. '25	2—326	5632	35	7603	3.91	220	9.08
Laura 2nd ...	11 Nov. '25	2—360	4650	35	6278	4.04	188	9.11
Queen 3rd*	13 Jan. '26	2—202	6034	35	8146	4.03	243	9.16
Rose* ...	26 Mar. '26	3—90	6881	35	9289	3.59	247	9.07
White Rose*	29 Aug. '26	2—237	7048	40	9867	3.78	266	9.21
Ruby 7th*	31 „ '26	2—280	5689	35	7680	3.64	207	9.22
Strawberry 4th*	2 Nov. '26	3—178	8131	30	10570	3.79	308	8.95
Bella 3rd*	6 „ '26	2—202	6366	40	8912	3.89	248	9.32
Dora ...	27 „ '26	2—360	7829	35	10569	4.23	331	9.26
Rosebud ...	4 Dec. '26	3—1	6228	35	8408	3.96	247	9.25

*Bought as yearling heifers—not bred in the Institute herd.

In Table IV details are given of the daughters of L.D. tabulated in order of calving, that is, in the order in which they supplied information regarding their productive powers. Table IV also gives particulars of 8 daughters, in addition to the 10 bred in the Institute's herd and listed in Table I, which were bought as yearlings from the University herd; they are included in Table IV in the order in which they calved. The details include the age at first calving, the actual milk yield in the first lactation (not exceeding 315 days), the age-correction factor used, and the age-corrected milk yield, also the actual fat percentage, the actual weight of fat produced and the actual percentage of solids-not-fat. Where the record for

the first lactation is incomplete, a note of explanation is included. Tables V, VI and VII give similar details concerning the daughters of B.B., K.F. and I.R.V. respectively.

TABLE V.
DAUGHTERS OF B.B. IN ORDER OF CALVING.

Name.	Date of First Calf.	Age at First Calving.	Actual Milk Yield.	Age C.F.	Age Cor. Milk Yield.	Actual Fat.	Actual Weight of Fat.	Actual S.N.F.
		y. d.	lbs.	%	lbs.	%	lbs.	%
Louie 2nd ...	24 Nov. '25	2-333	No Records.		Sold at Calving.			
Pearl 1st ...	28 " '25	2-256	7646	40	10704	4.18	320	9.08
Cissie 3rd ...	13 Dec. '25	2-300	{ Recorded 18 days, averaged 17 lbs. per day. Reacted. Suckled calves. }					
Flora 2nd ...	16 " '25	2-345	8120	35	10974	3.82	311	8.98
Patricia ...	26 July '26	3- 85	8920	35	12042	4.01	358	9.30
Chrissie 2nd ...	17 Aug. '26	2-233	{ Recorded for 23 days, averaging 15 lbs. per day, then suckled calves. }					
Lavender 2nd ...	29 " '26	2-191	{ Recorded for 4 days, averaging 19 lbs. per day, then sold. }					
Rufa 3rd ...	6 Sept. '26	2-353	6135	35	8282	3.50	220	9.28
Welcome 2nd ...	28 Oct. '26	3- 17	5829	35	7869	3.72	217	8.93
Gertie 2nd ...	31 " '26	2-345	4578	35	6180	4.44	203	9.78
Clara 1st ...	23 Nov. '26	3- 0	8124	35	10967	4.13	336	9.85
Winsome 2nd ...	30 " '26	3- 9	7468	35	10082	3.51	262	9.29
Cowslip 3rd ...	29 Dec. '26	2-289	6569	35	8868	3.77	248	9.14
Betty 3rd ...	31 " '26	2- 9	No Records. Sold at Calving.					
Winsome 3rd ...	3 Oct. '27	2-354	6970	35	9410	4.34	302	9.22
Coral 2nd ...	3 " '27	3-135	{ Recorded for 4 days, averaging 19 lbs. per day, then sold. }					
Cynthia 3rd ...	8 " '27	2-193	No Records. Sold at Calving.					
Pearl 2nd ...	11 " '27	3-126	No Records. Sold at Calving.					
Doris ...	12 " '27	3- 0	6887	35	9297	4.22	291	9.46
Flora 3rd ...	14 " '27	2-329	6707	35	9054	3.99	268	9.42
Welcome 3rd ...	7 Nov. '27	3- 11	6882	35	9291	3.73	257	8.78
Gretchen 6th ...	3 Dec. '27	2-260	No Records. Sold at Calving.					
Lottie 2nd ...	16 Feb. '28	2-351	6592	35	8899	3.63	239	9.31

A study of these tables shows the difficulty of obtaining a definite answer to the question—"How many daughters will form an unselected group of sufficient size to give a reliable indication of their sire's value?" It will be seen that for every bull, one or more daughters out of the first 6 to calve, did not complete her first lactation. In some instances the cause was that of poor milk yield but in others the cause was reaction to the tuberculin test. Obviously herds where the tuberculin test is applied at half-yearly (or even yearly) intervals, and reactors are disposed of, have another difficulty to overcome in presenting an unselected group of daughters.

The most practicable method seems to be that full information should be supplied regarding all the daughters in order of calving and when 6 have completed first lactation records, the results should be averaged and the number which have calved within the same period of time, but have been sold or have not been recorded for a complete first lactation should also be stated. In Table VIII the results for such groups of daughters of the four bulls are given.

TABLE VI.
DAUGHTERS OF K.F. IN ORDER OF CALVING.

Name.	Date of First Calf.	Age at First Calving.	Actual Milk Yield.	Age C.F.	Age Cor. Milk Yield.	Actual Fat.	Actual Weight of Fat.	Actual S.N.F.
		V. D.	lbs.	%	lbs.	%	lbs.	%
Woodruff 2nd ...	28 Sept. '27	2-311	5581	35	7534	3.63	203	9.30
Wistaria 2nd ...	30 ,, '27	3-22	6686	35	9026	4.23	283	9.18
Woodrush 2nd ...	12 Oct. '27	2-286	Not Recorded. Suckled calves.					
Wisdom 2nd ...	25 Dec. '27	2-364	7442	35	10047	3.82	284	8.98
Peach 2nd ...	25 ,, '27	2-266	8541	40	11957	4.14	354	9.14
Carlet 2nd ...	26 Mar. '28	3-157	{ Recorded 15 days, averaging 33 lbs. per day, then suckled calves.					
Flora 5th ...	30 Aug. '28	2-296	8390	35	11327	3.68	309	9.13
Pauline 1st ...	19 Oct. '28	3-21	{ Recorded 109 days, averaging 22 lbs. per day, then suckled calves.					
Dimple 2nd ...	26 ,, '28	3-43	{ Not Recorded. Bad type and teats. Suckled calf.					
Patsy ...	8 Nov. '28	2-105	6302	40	8823	3.82	241	9.07
Flora 6th ...	15 ,, '28	2-334	8378	35	11310	3.79	318	9.02
Flora 4th ...	22 ,, '28	3-259	9020	30	11726	3.87	349	8.73
Cynthia 4th ...	29 Jan. '29	2-330	5002	35	6753	4.73	237	9.23
Lena 2nd ...	5 Feb. '29	2-187	3378	40	4729	3.71	125	8.96
Rosalie 1st ...	19 Feb. '29	2-174	7343	40	10280	4.06	298	8.96
Welcome 5th ...	6 July '29	2-302	Reactor. Suckled Calves. No Record.					
Campion 2nd ...	22 ,, '29	3-115	6110	30	7943	4.02	246	9.09
Firefly 4th ...	18 Oct. '29	3-17	{ Recorded 77 days, averaging 20 lbs. per day, then suckled calves.					
Flora 7th ...	18 ,, '29	2-336	5613	35	7578	4.10	230	9.12
Lucy 3rd ...	7 Nov. '29	2-212	{ Recorded 84 days, averaging 18½ lbs. per day, then suckled calves.					
Lily 3rd ...	10 Dec. '29	3-9	7362	35	9939	3.43	252	9.06
Peach 3rd ...	25 Jan. '30	3-115	7744	30	10069	3.34	259	8.77
Flora 9th ...	20 Mar. '30	2-157	2842	40	3979	4.08	116	9.02
Flora 8th ...	31 ,, '30	3-25	4766	35	6434	3.76	179	8.56
Peal ...	8 Oct. '30	3-7	4543	35	6132	4.90	223	9.30
Peach 4th ...	30 ,, '30	3-12	Not Recorded. Suckled calf.					
Linda 4th ...	2 Dec. '30	3-25	3416	35	4612	4.28	146	8.84
Pauline 2nd ...	15 ,, '30	2-57	4470	45	6482	3.97	177	9.09
Flora 11th ...	28 Aug. '31	2-348	5833	35	7875	4.08	238	9.24
Clara 2nd ...	24 Sept. '31	2-278	6173	35	8334	4.30	265	9.27
Red Rose 1st ...	2 Oct. '31	2-303	7441	35	10045	4.25	316	9.19
Winsome 6th ...	1 Nov. '31	2-305	{ Recorded 96 days, averaging 17 lbs. per day, then suckled calves.					
Winnie 4th ...	15 Nov. '31	2-313	Reactor. Suckled calves. No Record.					
Portia 2nd ...	18 ,, '31	2-298	{ Recorded 108 days, averaging 18 lbs. per day, then suckled calves.					
Peggy ...	28 ,, '31	3-73	8491	35	11463	3.69	313	8.77
Lottie 4th ...	21 Dec. '31	2-279	8373	35	11304	3.85	322	9.26
Pippin ...	11 Feb. '32	2-157	5763	40	8068	4.08	235	9.27
Flora 14th ...	21 ,, '32	2-173	3345	40	4683	4.13	138	9.07
Flora 15th ...	24 ,, '32	2-173	6215	40	8701	4.32	268	9.24
Winnie 5th ...	26 ,, '32	2-309	3067	35	4140	3.82	117	9.01
Peach 7th ...	24 Aug. '32	2-301	{ Recorded 133 days, averaging 14 lbs. per day, then suckled calves.					
Firefly 5th ...	28 ,, '32	2-350	{ Recorded 19 days, averaging 9 lbs. per day, then fattened.					
Cora 1st ...	5 Sept. '32	2-336	7512	35	10141	3.48	261	8.93
Welcome 7th ...	26 Oct. '32	2-317	6471	35	8736	4.53	293	8.99
Bella 1st ...	31 ,, '32	3-28	5987	35	8082	4.25	254	8.97

An examination of Table VIII enables one to see (a) the average production of the first group of daughters from each bull; (b) the average production of successive groups and the degree of variation of the later groups from the production level of the first group, (c) the average production of all the daughters of each bull, and the

degree of variation of the various groups from this average, (d) the number of daughters calving within the same periods of time which were sold at calving or which might have completed but did not complete the first lactation period.

TABLE VII.
DAUGHTERS OF I.R.V. IN ORDER OF CALVING.

Name.	Date of First Calf.	Age at First Calving.	Actual Milk Yield.	Age C.F.	Age Cor. Milk Yield.	Actual Fat.	Actual Weight of Fat.	Actual S.N.F.
		v. n.	lbs.	%	lbs.	%	lbs.	%
Dora 3rd ...	4 Sept. '29	2-281	8545	35	11536	3.56	304	8.99
Portia 1st ...	16 " '29	2-254	6539	40	9155	3.66	239	9.07
Pearl 3rd ...	19 " '29	2-286	6496	35	8770	3.31	215	9.20
Gertie 3rd ...	11 Nov. '29	2-243	5300	40	7420	3.69	196	9.01
Winsome 4th ...	11 July '30	3-223	Not Recorded.		Suckled a calf.			
Peach 5th ...	22 " '30	2-209	6904	40	9666	3.97	274	9.18
Lottie 3rd ...	19 Sept. '30	2-215	3637	40	5092	3.37	123	9.15
Carmen ...	22 Nov. '30	2-266	6836	40	8870	3.27	207	9.30
Carlet 3rd ...	23 Sept. '31	3-210	7606	30	9888	3.74	284	8.67

TABLE VIII.
AVERAGE PRODUCTION OF GROUPS OF DAUGHTERS IN ORDER OF CALVING.

Sire.	Group of Daughters Completing 1st Lact. Pd.	Average Production of Groups of Daughters.					Number of Daughters		Total No. of Daughters
		Actual Milk Yield	Age Cor. Milk Yield	Actual Fat Percentage	Actual Weight of Fat	Actual S.N.F. Percentage	Not completing 1st Lact. Pd.	Sold at Calving	
L.D.	First 6	lbs. 6018	lbs. 8206	% 3.72	lbs. 224	% 9.04	1	0	7
	Second 6	5526	7499	3.87	214	9.11	0	0	6
	Remainder 5	6849	9208	3.92	268	9.20	0	0	5
	Total 17	6090	8257	3.83	233	9.11	1	0	18
B.B.	First 6	6873	9342	3.95	271	9.22	3	1	10
	Second 6	7121	9613	4.00	284	9.31	1	3	10
	Remainder 2	6737	9095	3.68	248	9.04	0	1	3
	Total 14	6960	9423	3.93	273	9.23	4	5	23
K.F.	First 6	7158	9786	3.90	279	9.13	4	0	10
	Second 6	6540	8790	4.01	262	9.00	1	0	7
	Third 6	5478	7355	3.83	210	8.97	2	0	8
	Fourth 6	5971	8135	4.06	242	9.07	4	0	10
	Fifth 6	5713	7839	3.91	223	9.13	2	0	8
	Remainder 2	6229	8409	4.39	273	8.98	0	0	2
	Total 32	6175	8383	3.97	245	9.06	13	0	45
I.R.V.	First 6	6237	8606	3.61	225	9.10	1	0	7
	Remainder 2	6971	9379	3.52	245	8.98	0	0	2
	Total 8	6420	8900	3.59	230	9.07	1	0	9

It will be seen that although the average for the groups of daughters by L.D. varied somewhat, the average for the first group (6 out of 7) was very close to the average for all the daughters. In the case of B.B. the averages were all quite close together but the increase over the averages of L.D.'s daughters has to be discounted to some extent because in each group the results are for 6 daughters out of 10. In the case of K.F. there was a considerable difference in the average production of the successive groups and the first group appreciably exceeded each of the others and also the average for all the daughters; the average for this group however, is qualified and reduced to a more correct indication, when it is noted that it also is an average for 6 out of 10 daughters. In the case of I.R.V. the most interesting point is the definitely lower average fat percentage of the milk produced by his daughters.

Significance of Differences in Average Yields of Groups.—Reference must be made at this stage to the degree of reliability to be attached to the average for groups of six or other number of daughters. Edwards (⁵) has studied this point and gives a table showing how the accuracy of the progeny test increases with the number of daughters. He shows that, in a comparison of two sires, each with three daughters, the difference between the groups of daughters would need to be greater than 3,188 lbs. before it could be stated that one sire was "significantly" better than the other—with six daughters the difference required is smaller—2,253 lbs.—and with twelve daughters it still amounts to 1,594 lbs.

My colleague, Bartlett, has made a similar study of the data given in Tables IV to VII and his conclusions generally support those of Edwards as to the amount of difference between the average milk yields of groups of daughters required to show a real difference in the breeding value of the sires.

It would appear therefore, that so far as milk yields are concerned, the differences between the averages for the first groups of 6 daughters from each bull given in Table VIII may be due to chance and do not provide convincing evidence that any one bull was definitely superior or inferior to the others. In such circumstances, other qualities possessed by the progeny, namely, fat percentage of the milk, shape and potential wearing qualities of udder and teats, breed type, etc. will be the deciding factors if it is necessary to place a group of bulls in order of merit.

Consideration of the Yields of the Dams.—It is often urged in progeny test work that the production level of the daughters of a bull should be compared with the yields of their dams under similar conditions, and in so far as the records are available, such comparisons are given in Table IX. Two sets of comparisons are given; the

average yields of the first six daughters are given with the average yields of their dams, and then the average yields of all the dam-daughter pairs available for each bull are stated; the average fat percentages, weights of fat and solids-not-fat percentages are also given.

TABLE IX.
AVERAGE PRODUCTION OF GROUPS OF DAMS AND DAUGHTERS.

Sire.		First Lact. Actual Milk Yield.	Age-corrected Milk Yield.	Actual Fat Percentage.	Actual Weight of Fat.	Actual S.-N.-F. Percentage.
L.D.	First 6 Dams ...	lbs. 6653	lbs. 9048	% —	lbs. —	% —
	„ 6 Daughters ...	6018	8206	3.72	224	9.04
	Difference Daughters +	—635	—842	—	—	—
L.D.	15 Dams ...	6288	8504	—	—	—
	15 Daughters ...	5910	7996	3.80	225	9.10
	Difference Daughters +	—378	—508	—	—	—
B.B.	First 6 Dams ...	7003	9422	3.67*	247*	—
	„ 6 Daughters ...	6873	9342	3.95	271	9.22
	Difference Daughters +	—220	— 80	+0.28	+24	—
B.B.	12 Dams ...	6481	8688	3.69†	229†	—
	12 Daughters ...	6965	9435	3.92	273	9.28
	Difference Daughters +	+484	+747	+0.23	+44	—
K.F.	First 6 Dams|| ...	6776	9125	3.75	254	—
	„ 6 Daughters|| ...	8012	10865	3.86	309	9.01
	Difference Daughters +	+1236	+1740	+0.11	+55	—
K.F.	21 Dams ...	7086	9584	3.80‡	267‡	—
	21 Daughters ...	6421	8682	3.95	254	9.05
	Difference Daughters +	—665	—902	+0.15	—13	—
I.R.V.	First 6 Dams ...	7113	9737	4.03	286	9.17
	„ 6 Daughters ...	6237	8606	3.61	225	9.10
	Difference Daughter +	—876	—1131	—0.42	—61	—0.07
I.R.V.	8 Dams ...	7100	9686	3.95§	273§	9.16§
	8 Daughters ...	6420	8900	3.59	230	9.07
	Difference Daughters +	—680	—786	—0.36	—43	—0.09

*For 4 dams only. †For 10 dams only. ‡For 20 dams only. §For 7 dams only. ||These 6 are the 3rd to 8th in Table VI., because no records are available for the dams of the first 2 daughters.

The results stated in Table IX show that the daughters of L.D. apparently gave slightly lower yields than their dams; this is correct so far as the yields in the first lactations are concerned, but the data given in Table III indicates that it is most probably not correct in so far as yields at maturity are concerned. Regarding B.B., the averages for the first 6 dam-daughter pairs show little difference in milk yield but an appreciable improvement in the fat percentage; the averages for the 12 daughters, however, are above those for the

12 dams in both yield and fat percentage. In the case of K.F. a direct comparison between the first six daughters in order of calving and their dams is impossible because the dams of the first two daughters to calve were not recorded for complete lactations—they were very poor milkers. A comparison therefore, has been given between the next 6 daughters to calve and their dams, and it will be seen that this comparison is much more to the credit of the daughters than is the comparison between all the dams and daughters. In the latter the milk yield of the daughters is slightly lower than that of their dams, but the percentage of fat in the milk is slightly higher. In the case of I.R.V. the production of the daughters is in every respect somewhat lower than that of their dams.

When the information contained in Tables VIII and IX regarding the production of the first six daughters in order of calving is studied, it does not appear that the data regarding the yields of the dams has given much assistance in interpreting the data in Table VIII in respect of the breeding value of the sires, and Edwards' cautionary statements concerning the amount of the difference between two groups of six required to be "significant," confirms this point of view. We may conclude that the comparison between the yields of six daughters and that of their dams supplies interesting information but it is not essential to the interpretation of a progeny test. It will be realised that in normal herds a new bull is mated with the **selected** progeny of previous bulls and expectation that each succeeding bull should improve on the selected daughters of his predecessor presupposes a knowledge of cattle breeding which we are not likely to possess for many years.

Summary.—The preceding pages contain :—

1. A brief resumé of the different factors which require definition and measurement in the computation of the breeding value of a dairy bull by means of his daughter's records.
2. A tabulated statement of the calves produced by each of four bulls used in the Dairy Shorthorn herd owned by the National Institute for Research in Dairying, and a classification of the disposal of the cow calves.
3. A revised set of age-correction factors and a measurement of their accuracy as judged by the calculated mature yields and the actual mature yields of a group of 25 cows.
4. A set of tables showing the daughters of each of the four bulls in order of calving, the yield in the first lactation period (not exceeding 315 days), the age-correction factors used, the age-corrected milk yield, and the actual fat percentage, weight of fat and solids-not-fat percentage, also the dates of calving and notes on those daughters which were not recorded for the full first lactation and

a discussion on the difficulties surrounding the obtainment of a sufficiently large group of unselected daughters.

5. A table showing the average yields and other production data for the daughters in groups of six in the order of calving, including the number of daughters in each calving group which was not fully recorded and a discussion on the reliability of group averages.

6. A comparison of the production levels of the first six daughters of each bull and their dams and of all the dam-daughter pairs of each bull. In a discussion it is concluded that the information obtained from the dam-daughter comparisons does not add materially to the knowledge of the bull already gained from the average yields of the first group of unselected daughters.

COMMENTS AND SUGGESTIONS.

The information obtained from a progeny test of a dairy bull is of value mainly to the owner of the bull and the bull's progeny and it is also of value to the breeder of the bull and to other owners of herds of the same breed of cattle.

This article will, I hope, show breeders what is involved in the collection and analysis of herd records in such a manner as to obtain reliable progeny test results. There may not be many herds where all the data summarised in the preceding pages is available but no doubt there are numerous herds where the private herd books and the milk yield registers contain much valuable information. Where this information can be classified for each bull to show the total number of daughters reared with the date of birth of each, the number sold before service, the number which calved in the herd or were sold at calving, the number which completed their first lactation period and the actual milk yield for 315 days (or other period according to the Breed Society's definition) the results may be most interesting and give valuable assistance to constructive breeding. In some instances it may be possible to obtain details of the milk records of daughters which have been sold to other milk recorded herds. There are still more herds where information of this nature should be collected as a matter of management routine in the future and it is to be hoped that the scheme for progeny recording of dairy bulls, sponsored by the Central Council of Milk Recording Societies, may give an additional stimulus to such work.

It must be emphasised that the breeder, or, more accurately, the owner of the daughters of any bull during their first lactation period, is in the best position to interpret progeny test results fully and fairly. Milk yields may be defined as those given in a lactation period of limited length, they may be corrected for age and even

the quality of the milk may be stated for an adequate and unselected group of daughters, but the owner alone knows if other factors, incapable of measurement, have been operating; such factors as the effects of climate and quality of pasture, efficiency of feeding and milking, effects of a bad calving, lameness during the first winter in stalls, and numerous others may influence yields favourably or unfavourably, and a realisation of this makes it clear that practical knowledge and judgment will be needed to interpret progeny test results just as they are needed to interpret milk records.

Nevertheless, a more progressive breeding policy in every dairy breed, making use of the latest findings of scientific research, can only be developed on sound lines if an increasing number of dairy herd owners adopt a system of progeny testing, collect the necessary information, study it and learn from it. A proportion of breeders, past and present, have always made use of the progeny test principle and have no doubt derived benefits from its application but in the future the results should be made available to other breeders in a more complete and coherent manner and on the basis of a sufficient number of unselected daughters.

In this connection also Breed Societies can play a useful part. Each Society might consider the institution of a progeny testing scheme and the optional publication either in its journal or year-book or herd-book of such progeny test results as were considered worthy of publicity. It is not essential that any basic standard of performance be required before publication is permitted, indeed, in view of the variation in conditions of management, climate and other factors, the institution of any such standard might operate unfairly. If a breeder is satisfied with the results obtained he could have facilities for publication. If a Society should decide that the groups of progeny must attain a certain standard in breed conformation, inspection could easily be arranged on the lines at present adopted by some Societies for the inspection of foundation cows. At some future date it may be possible for Societies to devise and adopt a method of allocating points for conformation in such a manner that the points given indicate the comparative excellence of udder, teats, barrel, head, etc.

The main essential is that the data submitted for each bull should be reliable and adequate. The information, at least in respect of milk yields, given in Tables IV to VII for the first six daughters of each bull to complete their first lactation period, and as summarised in Table VIII, might be used as a basis for discussion concerning the information a breeder must submit for publication. I would further suggest that if a breeder exercises his option to publish the records of the first six daughters of any bull, he should be required also to publish the records of the next six at least.

In conclusion, I wish to acknowledge the valuable assistance I have received from Mr. L. E. Edney and Mr. B. Ridler in the analysis of the records and the arrangements of the tables which have been essential to the preparation of this paper.

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EFFICIENCY IN DAIRYING AND SOME ECONOMIC RESULTS

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The dairy industry of Great Britain, in fact of the commercial world, is now facing great difficulties and as far as can now be seen, difficulties of such a character as will not be easily or quickly removable. Perhaps no one could pretend to display all the causes and results of these difficulties, or indeed to describe all the conditions of the industry, but some analysis from the economic point of view is necessary. The essential conditions in the industry at the moment are—

- (1) Rising production ;
- (2) Rising efficiency in production ;
- (3) Increase in *potential* powers of production ;
- (4) Contraction in purchasing power of consumers ;
- (5) Powers of production tending to rise more rapidly than consuming population.

In practically every country with a commercial dairy industry the dairy cow population has been increasing and on the whole the tendency is towards a more rapid increase than that in human population, and when the increase in milk and butter-fat yield is taken into account there cannot be any doubt that the general supplies of dairy produce are tending to increase much more rapidly than the number of consumers.

This increase in production is being obtained with a higher degree of efficiency than formerly, and, in fact, the higher efficiency of the industry is largely responsible for the increase in production. It may be difficult to find an adequate definition of efficiency for application to the dairy industry, and certainly it is difficult to find an accurate measure of degrees of efficiency. Improvements in industrial practices leading to rising efficiency in production may be divided into two general groups—those which enable operators to obtain an increase in the product without an equivalent increase in the requirements of production ; and those which enable operators to maintain production with diminishing amounts of some or all of the requirements of production. In general, efficiency arises from economy in use and securing full use of resources, and from prevention of wastage. When a lower input will maintain output, or a higher input will give a higher than proportionate output, efficiency is increased.

On the production side of dairying the chief efficiency movements have been—

- Improvement of pastures—for both grazing and hay ;
- Improvement in selection and breeding of cows for milk yield ;
- Improvement in the methods of feeding—wider choice and selection of feeds, methods of rationing, “balancing” etc. ;
- Recently—some improvement in general organisation of “labour” operations.

The best measure of the results of improvement in pastures and feeding, and in breeding, is that of the increase in milk-yield, and as this is also one of the most important factors in the general conditions of the industry at the present time it deserves fairly full consideration.

In England and Wales, it has been estimated that the milk yield per cow increased by 12 per cent., or from 482 to 539 gallons per annum, during the period 1925-31. The Milk Recording Societies of this country show a very considerable rise in the yield of recorded herds. In 1917-18 about 20,000 cows showed an average yield of 599 gallons while in 1928-29 about 145,000 cows showed an average of 690 gallons. In the earlier years the gallon was recorded as 10½ lbs. and in the later as 10 1-3rd lbs., so the rise is nearly 100 gallons. More recent yields have shown a rise of about 120 gallons per cow. If the general yield per cow *circa* 1890 is put at 400 gallons, rather a high figure, there has been an increase of nearly 40 per cent. in about 40 years. My own estimate would be of fully 40 per cent. or a little more.

The records and estimates for other countries vary somewhat in form and in periods covered, but everywhere the change has been of the same character. In Denmark the number of cows increased about 25 per cent. and the production of milk by about 50 per cent. between 1914 and 1930. This gives an increase in yield per cow of approximately 20 per cent., but it is also estimated that a 25 per cent. increase in butter-fat yield has been obtained.

	1914.	1930.	Increase. %
Number of cows ...	1,310,000	1,630,000	25
Av. Yield per cow (galls.)	587	707	20.5
Fat content ...	3.55	3.73	5
Butter-fat per cow (lbs.)	215	272	26

The progress indicated here is so remarkable that it is worthy of display even though the figures are not taken at exactly their face-value.

COWS AND MILK YIELD IN DENMARK.*

	No. of Cows. (Thousands)	Milk per cow. (lbs.) (Approx.)	Butter-fat per cow. (lbs.) (Approx.)	Lbs. milk per lb. butter-fat.
1861	757	2,200	65	31.7
1871	808	2,980	90	30.7
1881	899	3,530	111	29.4
1893	1,011	4,410	148	26.9
1903	1,089	5,510	193	25.6
1914	1,310	6,060	215	25.3
1919	1,042	3,990	144	24.9
1924	1,369	6,610	241	24.4
1929	1,579	7,050	261	23.6
1930	1,632	7,300	272	23.5

*See "Denmark, 1931," p. 184.

Progress is made at varying rates, and various standards of milk-yield are now current. In Sweden progress has not been so rapid as in Denmark, and current yields are much lower. But even here the rise in average milk-yield from the beginning of the century is about 60 per cent.

NO. OF COWS AND MILK YIELD IN SWEDEN.

	No. of Cows. (Thousands).	Approx. Yield per Cow. (galls.)
1871-75	1,313	218
1876-80	1,387	218
1881-85	1,401	227
1886-90	1,550	246
1891-95	1,653	266
1896-1900	1,746	291
1901-05	1,774	327
1906-10	1,829	354
1911-13	1,860	382
1927	1,874	466
1930	2,033	481
1932	2,043	492

For the Netherlands no record of change is obtainable, but the milk yield per cow is estimated at just over 740 gallons and the butter-fat yield at nearly 250 lbs., so the same sort of progress as in Denmark may be safely assumed. For Friesland there is an estimate of increase in butter-fat content from 3 to 3.4 per cent. in the first quarter of this century.

Production in Denmark and New Zealand has exercised an increasing influence in the dairy produce markets of this country, so it is not surprising to find progress in New Zealand of yet more striking character during recent years. The New Zealand estimate of increase in butter-fat production per cow from the early part of the century to the end of the last decade was in the neighbourhood of 64 per cent. From 1912-14 to 1928-30 the increase is put at about 39 per cent. The most striking fact here is that these increases

did not start from a very low level, for at the beginning of the century the yield of butter-fat was about 127 lbs. and at the end of the last decade 208 lbs. The latter figure is a good deal higher than the output of butter-fat of cows kept for butter-making in this country. Indices of number of cows, butter-fat per cow, and total production of butter-fat are summarised to show recent changes.

INDICES OF CHANGES IN NEW ZEALAND DAIRYING.

	Total Dairy Cows.	Butter-fat per cow.	Total Butter-fat Production.
1900-01	100	100	100
1910-11	166	110	182
1913-14	184	123	211
1919-20	237	119	280
1924-25	347	143	497
1925-26	342	141	482
1926-27	342	156	533
1927-28	354	154	544
1928-29	359	166	596
1929-30	377	171	647

Australia illustrates both progress and a low current yield, while Canada, amongst the countries for which information is obtainable, shows a tendency to slow down progress. Of Australia it is said : " The average quantity of milk produced per cow varies greatly with the herd, locality, and season, reaching as high as 1,000 gallons, but averaging for all dairy cows in the whole of Australia in seasons prior to 1916 considerably under 300 gallons per annum. In recent years not only has there been an improvement in the quality of cattle, but more scientific methods have been adopted in the industry generally and the 300 gallon average has been exceeded in each of the last six seasons, the yield of 381 gallons in 1930 constituting a record." The rise in yield from 1910-15 to recent years has been about 27 per cent. For Canada the estimates are :—

	Average Yield per cow. (lbs.)	Increase. %
1900	2,850	100
1910	3,799	33
1920	3,999	40
1930	4,088	40

From nearly all parts of the United States of America there are records of increases in milk yield, and " for the United States as a whole production per cow increased 12 per cent. between the individual years 1919 and 1924, and over 18 per cent. between the five-year periods centred on these census years."

It is not suggested that the rise in efficiency in milk production is equal to the increases in milk or in butter-fat yield, for requirements in both food and labour may rise with increasing yields. Under most circumstances food requirements will thus rise, but not always in proportion to increase in yield. Labour requirement may rise with yield, but in so far as increased yields are obtained by breeding, it may not do so and generally will not do so in proportion, and under other conditions labour requirement need not rise in proportion with increase in yield.

Quite generally the increase in the production of milk per cow is greater than the increase in production per unit of feed consumed, but as far as can be ascertained, close estimates of the *net* economy of feed in increasing milk yield have been made only for U.S.A. Taking the figures for the recent increase in yield previously given (— 12 per cent. 1919 to 1924 and 18 per cent. 1917-21 to 1922-26 —) on the whole herd the increase in feed is 70 per cent. as great as the increase in milk yield. Applying this latter ratio to the 12 per cent. above it appears that the increase in milk per unit of feed is 4 per cent., or applying the ratio to 18 per cent., the increase in production per unit of feed would be about 6 per cent.

Other figures of the same kind would be extremely useful, but in their absence it may be said that there are two chief methods of securing economy in the use of feed for milk production—breeding to obtain cows which are more efficient converters of feed into milk, and better selection and rationing of feeds. The exact contributions of each are perhaps unassessable, but approximate estimates of the net effect of the combination are possible. For England and Wales the net economy in use of feed for milk production from 1890 to 1930, taking yield and feed together, may temporarily and tentatively be estimated at about 9.11 per cent., or a fall in the feed requirement per gallon of milk of about one-tenth.

There are, however, very large economies obtainable in milk production by securing economies—raising efficiency—in the production of the basic crops of feed, and under some circumstances the most important of these are in pasture management. There is no doubt that improvement in the basic crop production of Denmark has contributed to progress in dairying. Of New Zealand it is said that during the years 1919-1930, while number of cows and butter-fat production were increasing rapidly, very little increase in land occupied occurred. Selection of seeds for pastures, top-dressing with manures, and some general improvement in pasture management largely assisted the increase in production. During the five years 1926-30 increases in total butter-fat production were due largely to increased use of top-dressings, mainly phosphatic, for pastures.

Increase in animal products, including milk, per unit of feed consumed, is due *inter alia* to these changes—

- (1) Improvement in the animals used for production ;
- (2) Reduction of mortality rates due to disease, etc. ;
- (3) Improvements in combinations of feeds for production ;
- (4) Some shifting of the geographical areas of production ;
- (5) Some shifting of production from farm to farm in the same area, with tendency to increase production on the more efficient farms.

Very little attention has been paid to estimates of efficiency or economy in use of labour with dairy herds either under general conditions of change or in relation to milk yield. For New Zealand dairy farms, however, there is a very striking index of labour efficiency, "as ascertained by expressing butter-fat produced per unit of labour, male plus female, as an index number to 1920 as base." The rise between 1920 and 1929 is estimated at about 59 per cent., and figures for individual years are :—

1920	100.0	1925	128.9
1921	104.6	1926	130.9
1922	119.1	1927	152.6
1923	119.4	1928	154.0
1924	120.4	1929	159.2

The measure of rise in efficiency here, of course, is one of the whole system of production ; including breeding and selection, feeding and labour organisation ; based on the requirement of the unit of labour, and efficiency in work-organisation generally, and in use of manual labour, is only one factor in the change.

For England and Wales there are fairly reliable estimates of manual labour requirements per cow in herd, as follows :—

1871	240
1881	231
1891	222
1901	215
1911	216
1921	219
1931	200

The requirement of manual labour per 100 gallons of milk *circa* 1890 may be put at 55 as compared with 37 hours at the present time, but this does not include labour in the production of feed crops. If the economy of labour in raising feed crops could be added the total economy and increase in efficiency would be very high.

The chief factors in rising economy by use of *direct* labour

in milk production (apart from conditions of growing feeds—especially preserved feeds and concentrates) are :—

- (1) Increase in size of herd ;
- (2) Change in geographical location of production—especially to areas of “open-air” or “all-year-round pasture” production.
- (3) Some improvement in buildings and in general conveniences of indoor handling ;
- (4) Adoption of mechanical aids—such as feed preparing machinery and to a less extent of milking machines ;
- (5) Some shifting of production to the farms more efficiently equipped or organised for use of labour.

These conditions or influences are mixed with others. The economy secured by raising the size of herd may not be very important under some conditions, but when combined with use of mechanical aids or improved buildings it may be considerable. On the other hand, if greater care is being taken with cows and milk, the saving of labour with improved buildings or conveniences may be apparently negated by devotion of more time to other practices. The saving of labour in food preparation by machinery has under some circumstances occurred on the farm, and under others off the farms in mills, etc., but that there has been great saving there can be no doubt. And other economies like those secured by better breeding, or selection, or feeding, or by reducing mortality of cows, affect the amount of labour required per unit of product—like 100 gallons of milk. The factor of “organisation” has been connected with size of herd, with changes in equipment, and with the “open-air” system of production, but also, it has been a factor of some importance in itself with little reference to other changes and its importance is increasing. The “Hosier” system, for instance, is merely an outstanding illustration of changes which are occurring in the dairying areas of the commercial world, including this country.

Changes in methods of handling and manufacture of milk are of even greater importance than those in primary production. While the milk supply of the commercial world has been extending by leaps and bounds, since 1870, first by extension of the area of production and numbers of cows used for milking, and then by intensification of methods of production as well as by increase in herds, the whole of the manufacturing side of the industry has been revolutionised. These changes can be generally described as :—

- (1) The application of machinery to secondary dairy production and the development of the factory system ; or,
 - (a) development of factory organisation ;
 - (b) development of dairy engineering ;

(2) Development of dairy science :—

- (a) chemistry
- (b) bacteriology

leading to

- (3) Development of new methods of short-period and long-period preservation of milk (heating and cooling, and evaporation for “condensing” and powdering); and to efficient cold storage for long distance transport.

Practically the whole of the modern dairy industry as we now know it has grown up during the last sixty years, and particularly during this century. It is difficult to assign exact dates to inventions and innovations, because they largely occurred on the Continent of Europe and in the United States. Perhaps it is sufficient to say that, generally speaking, the great changes in equipment for manufacture of dairy products occurred between 1870 and 1900, and the great changes in equipment and methods of handling milk for direct consumption have occurred since 1900, but, of course, some important changes in factory equipment and methods have been made since 1900, and some general but important changes in methods of handling liquid milk occurred at the end of the 19th century. The extension and development of factory or large-scale organisation has been continuous since 1870, but in the liquid milk trade has been specially remarkable since 1910.

These changes have increased the variety of milk products and enormously reduced the wastage of milk and its products. While the saving of labour for a given amount of milk product cannot be estimated with accuracy there can be no doubt that this also is enormous. Most probably the cheese industry has undergone least change, but even here there have been considerable changes in equipment and methods, and great general improvements have been made since the manufacture of rennet extract began about 1873. The amount of processing of milk for direct consumption has been increasing, but here the avoidance of wastage is almost certainly greater than the increase in labour. The handling, processing, and manufacture of milk, whether in connection with the liquid milk trade or in actual manufacturing is largely, and, for the remainder, is very rapidly becoming, a large-scale industry. It is very extensively mechanised, very highly capitalised, and its transport services are extremely well organised. And the milk industry has applied sciences of its own—engineering, chemistry and bacteriology—which are continually improving its equipment and practices.

These, perhaps, may be set out as the general stages of development :—

- (1) Introduction of factory system ;

- (2) Innovation and improvement in dairy and factory appliances and equipment ;
- (3) Improvement in transport facilities and in storage ;
- (4) Scientific research and facilities for education ;
- (5) Development of *commercial* methods and organisation ;
- (6) State supervision of qualities of dairy products, especially for export.

It is almost impossible to separate the consideration of the development of commercial* organisation of the dairy trade from the factory system of production, but as in some other cases there was a certain amount of fairly large-scale organisation before the factory system was extensively adopted. The recent and contemporary commercial organisation, however, is closely associated with factory production and has largely arisen from it.

There is no space in which to describe or descant upon the structure of the commercial organisation—whether of co-operative or private enterprises. The features of the co-operative type are (1) local organisation for manufacture ; (2) associated or federal organisation for technical assistance or guidance in production ; associated or federal organisation for control of qualities, especially for export sale ; with State assistance in control of qualities ; or with State control of qualities for export. Where there is State assistance in control of qualities this is open also to private manufacturers, and any degree of State control is equally applicable to all manufacturers. There is still manufacture of the more simple products—butter and cheese—on a small or local factory scale, but wherever this assumes importance for export trade it is subject to measures of State control. The development and operation of the Lur Brand system of control in Denmark, of the Netherlands Butter Control, and of the New Zealand Dairy Produce Control Board, illustrate these conditions. Manufacture of the newer products of milk, like condensed milk and milk powder, or tinned cream, is generally organised on a large-scale factory basis, or under a large-scale commercial organisation. Preparation of bye-products of the manufacturing processes has also assumed fairly big proportions and this is conducted entirely by large-scale organisations.

The general result of all these conditions is that the control of the general dairy industry from the point of view of adapting products to consumers' requirements, of maintaining quality, of securing convenient and attractive packing and presentation, and of securing publicity and advertisement, is very highly organised. The perishability and the delicacy of both milk and its products, and their importance from the point of view of public health, have contributed

*Mainly for sale of products, but also purchase of requirements.

to this position, but the necessity of attracting consumers to the products of a continually expanding industry has been not less important. As it has been said that cheese-making was less affected by mechanical and other changes than some other branches of the dairy industry, the general nature of commercial changes in the case of cheese are all the more striking. The changes here have been towards greater control in manufacture, more variety in supply and more control of quality in types and varieties for better storage and transport, and far better presentation to consumers. The making of "processed" cheese has extended and developed since 1905, but more particularly since 1920. Natural cheeses of many varieties and types are now turned out in large quantities, graded and branded, and processed cheeses are turned out under many brands and names, each one differing a little in composition and characteristics.

Viewing the dairy industry as a whole, it is not too much to say that its commercial organisation is not surpassed by that of any industry of an equally widespread character. The use of the raw milk is largely and in some areas entirely determined by the immediate conditions of the different markets for its products. The products of one country are adapted to the market conditions or requirements in other countries and transport systems are efficient. The products themselves, and the methods of packing and presentation, are fairly readily adapted to traders' or consumers' requirements. Selling organisation in the chief consuming areas is highly developed, and within the chief selling organisations there is a good service of market intelligence.

Yet with all this change, progress, efficiency, and adaptability the dairy industry over large areas of the commercial world is in deep economic depression. Only the people concerned with the trade in liquid milk have been able to maintain their incomes in the form of wages or profits. Manufacturers have suffered to some extent, but real earnings of milk producers have fallen to very low levels. At all the points of the industry at which there is a strong element of competition real incomes have recently suffered reduction. Looking at the British dairy industry alone it might be said that this is due to lack of organisation and consequent lack of concerted action for progress in adaptation of products to market requirements, for selling, or for market intelligence or control; but this cannot be said of the general dairy industry of the commercial world.

The condition of the British dairy industry may also be said to be due to heavy imports of competing products, and to the protectionist measures taken by other countries in order either to reduce competition of imports or to subsidise and stimulate their own dairy industries. In part this is true, but the protectionist measures, either for reducing competition inside national boundaries,

or for strengthening the competitive power of a national group of producers in the competitive international market, are only symptomatic of the general world conditions in the industry and its markets. While the removal of the protectionist measures now in use by other countries would remove some of the pressure on British markets, the fundamental conditions in the industry would remain. These conditions have been stated as rising production and efficiency, tending to contemporary over-production, and the existence of great potentialities of production which any general rise in prices would be expected to bring into action.

One of the causes of recent pressure of supply of milk and dairy products on British and other markets has been the relative unprofitability of other farming enterprises. But the better prospects of profits, or smaller risk of loss in dairying than in other enterprises, itself has been due to two conditions, namely, the rapid rise of efficiency in dairying and the expanding markets for dairy produce.

There is no available measure of the expansion of the world trade in total dairy products, but there is a measure of growth of international trade in butter and cheese in the following figures :—

VOLUME OF INTERNATIONAL TRADE IN BUTTER AND CHEESE.

		(Million Cwts.)	
		Butter.	Cheese.
(1)	1909-13	5.9	4.1
(2)	1922-24	6.1	4.9
(3)	1925-27	8.4	5.9
(4)	1928-30	9.8	5.9
Increase (1) to (4) ...		66%	44%

While there are no statistics of equal value in the case of other milk products there can be no doubt that the trade in these has increased in similar and in some cases even higher proportions. During this period the population of the world has increased at a much slower rate, and the recent average rate of increase has not been higher than one per cent. per annum. Thus there is indication of higher consumption of dairy produce per head of population, and this indication is also supported by direct evidence for some countries.

The effects of rising efficiency in the industry obviously will depend on other concurrent conditions. With an equal rise in number of consumers and maintenance of consumers' purchasing power, the increase in production would be taken into consumption unless there happened to be a change in dietary habits.* With a slower rate of increase in consuming population there must be an increase

*It should be noted that under these conditions it may be necessary to reduce the number of cows if efficiency is raised by increasing milk yield.

in consumption *per capita* if the tendency to over-production is to be avoided. An increase in numbers and consumption per head may take into use all the increased production if purchasing power of consumers is maintained. A reduction in purchasing power may retard or stop any current tendency towards increased consumption *per capita* or even reduce it. As regards increase in production itself, much will depend on the profitability of other farming industries and on the opportunities of actual or potential dairymen finding occupations outside agriculture.* Generally speaking a rise in efficiency in dairying will be expected to set up a tendency towards falling prices with falling costs, but this again will be affected by conditions of demand for produce, and to some extent by the prevailing circumstances in the general employment and investment markets. Changes in monetary conditions causing changes in the general level of prices will also affect prices of dairy products and will condition the effects of a rise in efficiency to some extent irrespective of other changes.

In Great Britain total consumption of liquid milk continued to increase, almost certainly with a slight increase in consumption *per capita*, up to 1931, but since then it is practically certain that there has been a decrease in total consumption with a decrease in consumption per head. A general tendency to increase in consumption of liquid milk, including increase *per capita*, is found in a number of countries, but even where consumption per head is double to treble that of this country the depression in the industry is quite as heavy as here. Consumption of butter in this country has been increasing very rapidly during the last few years. From the pre-war amount of about 15½ lbs. per head there was a fall to a very low figure at the end of the war-period, a rise to about 15½ lbs. in 1924-27, and then to about 21 lbs. in 1931, and to a slightly higher figure since that year. The consumption of cheese appears to have risen from about 8½ lbs. per head to 9½-10 lbs. per head, with a fairly considerable increase in total consumption. But since 1931 the demand has been far from sufficient to maintain prices, and even very low prices have not stimulated the demand to the same extent as with butter. The total consumption of other milk products also increased up to 1931, but low prices were necessary to maintain demand. This country does not appear to be at all a special case of demand for and consumption of dairy produce, for wherever there is absence of special restrictions on supplies the general tendency has been towards increase in consumption.

So far as there is direct evidence, or the basis for general judgment, the general trend of consumers' habits has been towards greater consumption of milk and dairy produce. The general trend of consumers' valuation of milk and dairy produce has also been in an

*Again, if efficiency is raised by increasing yield, an increase in production is practically certain, because numbers of cows will not be reduced for some time.

upward direction, at least until the widespread depression set in during 1931. From 1875 to 1913 the price of butter in this country was consistently above the general level of prices, in spite of an enormous increase in total imports and increase per head of population. Maintenance of prices of butter at a higher level than that of general prices also occurred again after the war. Cheese prices also were well maintained while supplies were increasing. Indeed, prior to the war, the common feature of the markets for dairy produce was maintenance of prices with an increase in total supplies and per head of population*. The most marked feature of agricultural markets since the war has been the maintenance of prices for milk used as liquid milk, and while in this trade there is some complication of payment for increasing "services" with milk, there is still evidence of rising consumers' valuation of the commodity. On the other hand, while there is evidence of rising appreciation of butter, it is also obvious that the price is still the main factor in demand. The Report on Marketing Butter and Cream stated: "Among the well-to-do, the demand for butter is fairly steady irrespective of price. Demand as a whole, however, is very elastic. The need for fat in the diet can be met by several commodities, and since butter-fat is the most expensive of the fats ordinarily consumed, the demand for butter quickly responds to changes in prices of competing fats and in the purchasing power of the public. Such information as there is suggests that consumption increases most rapidly when the retail price falls below 14d. per lb."† That was the position in 1930-1931, but 11d. to 12d. is now the level which corresponds to 14d. at that time. There is a fairly close association between general prices of cheese and prices of butter. Although there are differences in the short-period changes in prices of these two commodities, the coefficient of correlation of changes 1871-1912 is + 0.674, and of changes 1924-31 + 0.715. But for some varieties of cheese with special markets association of changes in prices with those of butter is not so close. There is, however, a closer association between rates of wages and prices of the standard common cheeses than between prices of cheese and butter. The coefficient of correlation between changes in rates of wages in the principal industries and changes in price of cheese 1897-1912 is + 0.823, and for changes in prices of Cheddar cheese and wages 1930-31 the coefficient of correlation is + 0.811. On the whole there is clearer evidence of association between changes in rates of wages and prices of dairy products than between changes in the rate of unemployment and those prices, but there is, of course, some relation between changes in rates of unemployment and those in rates of wages. Price is the chief factor in the demand for condensed milks, but

*Consideration of the War period is omitted because of abnormality of conditions.

†Economic Series, No. 30. 1932.

rates of unemployment and rate of wages in the lower paid occupations also affect this demand. With little unemployment and the higher rates of wages demand tends to fall, but with heavy unemployment and general insecurity of earnings demand tends to rise so long as the commodity can be offered at a low price. Amongst the poorest of the consumers there is a certain amount of alternating demand between tinned and fresh milk according to changes in conditions of employment and earnings. It is doubtful, however, whether these changes seriously affect the total demand for milk in the British home and import trade, although they do affect the demand for British fresh milk.

Prices of dairy produce have been influenced by changes in the general level of prices caused by changes in monetary and general trade conditions, but up to 1931, because of the special conditions of the market, prices of liquid milk were subject to relatively little influence from this source. In so far as there was a rise in consumers' appreciation of other milk products this tended to counteract the influence of the downward trend of the general price level.

Thus while supplies of dairy produce were increasing, and on the whole consumers' valuation of milk and milk products was rising, up to 1931, the increasing supplies were taken into consumption at prices which were not unprofitable to producers, although even then complaint was made against prices of some milk products. At the present time it would be expected that any marked improvement in general industrial and economic conditions will be reflected in the demand for liquid milk, but no very great extension of demand would be expected immediately unless specific action is taken for its creation. There is no indication of any considerable extension of the demand for cheese, although general improvement in industrial conditions would bring some improvement and in particular would allow for some rise in prices. Demand for some local varieties of cheese is affected more by local than by general conditions of employment, and in the case of Cheshire, improvement in the North-Western area is almost certainly required for a strong improvement in the market. General demand for cheese is not affected as much as that of butter by a fall in price, but, on the other hand, the demand will not be diminished by a rise in prices which follows a rise in purchasing power. The demand for butter is closely related to price, and as far as can now be seen any rise in prices under existing industrial conditions would contract demand.* The greatest danger to the whole dairy industry is that of continuance of low general economic conditions until the consuming public has firmly established some changes in consuming habits and become inured to them, because of the inertia which will result.

*Largely because of the existence of a ready substitute in margarine. The position here is very much like that existing in the alternating demand for fresh and condensed milk.

Under these circumstances continuation of low prices of dairy produce will be required to maintain and then to stimulate demand.

Many milk producers have great faith in the possibilities of creating demand by education and publicity, but on the information available it is doubtful whether this faith is justified. The probabilities are that little is to be gained by these methods until general economic conditions show considerable improvement, but with such a change appropriate methods of publicity would assist in securing return to previous trends of consumption and might strengthen them. It is, however, fairly clear that an increase in a specific demand, like that for fresh milk, will not necessarily bring an equivalent increase in total demand for milk and milk products. Far the most important influence in the markets for milk and dairy produce of the near future is that of purchasing power of consumers.

Many milk producers have also considerable faith in protective measures. These may be of assistance to one or more national groups of producers, but they cannot assist the whole of the dairy industry of the commercial world ; and, indeed, as their use becomes more widespread their value to any one group will diminish. On the other hand, with protected or partially closed markets in the chief consuming countries, there is great danger to a particular national group in leaving their market open, and some measure of protection in Great Britain may be necessary and useful. Yet, unfortunately, the benefit to be obtained from protective measures is too easily exaggerated, and it is practically certain that the increases in prices of dairy produce that will be expected to follow use of protective measures in this country will not be realised until there is greater security of incomes, and higher purchasing power, amongst the great mass of consumers.

In the long run, however, it is practically certain that the dairy industry of the commercial world has to seek or suffer other methods of adjusting supply to demand, at least for a period of several years. While it is just possible that demand may increase in the near future to take into use all the available supplies a general judgment would be that this will not be the case. Or, if such demand were backed for a time by an increase in absolute and relative prices, it would bring into action all the latent powers of production which could be fairly described as enormous. In the former case (continuation of slight glut due to over-production or under-consumption) there will be a struggle between competing farmers within national groups, and between national groups of producers supported to some extent by their respective States. State support will tend to maintain conditions of slight glut, at least for some time ; but farmers' organisations and some States are developing new

ideas on control for restriction of supplies and there may be numerous experiments. Without a fairly big increase in effective demand, however, it is practically certain that some slight reduction in the amount of capital and labour used in milk production will be necessary and that States will struggle to avoid such reduction in their own areas. In this struggle at least some of them will use measures for securing further increase in efficiency of their own dairying as well as the more commonly recognised "protective" measures. The efficiency movements, indeed, cannot be stopped. They may be retarded for a time, but so far as the efforts of individual farmers and commercial firms (dealing with products and supplying requirements) are concerned they are likely to be accelerated by the depression unless it reaches a stage at which even the more efficient individual businesses suffer severely. There is danger in agriculture that depression may drive progressive enterprises back to more primitive systems, as has happened in the wheat production of some parts of the world, but the dairy industry has not nearly reached this stage.

As regards one of the special aspects of efficiency movements which has been discussed, namely increase in yield, there is, however, some degree of uncertainty as to future change. The increases secured during this century began at relatively low levels at which it was possible to secure fairly rapid and large proportionate changes. It is now certain that at the higher levels of yield prevailing, for instance, in Denmark, The Netherlands, and New Zealand, it will be difficult to secure equal proportionate increases in the future. The rate of increase is almost certain to slow down. On the other hand there are countries in which lower average yields prevail and in which rapid change is still possible. From the point of view of milk supply per cow, an increase of 5 per cent. in New Zealand is nearly equal to an increase of 10 per cent. in Australia; or an increase of 5 per cent. in Denmark is about equal to an increase of $7\frac{1}{2}$ per cent. in Sweden. Results will vary with methods, but in respect of feeding economy (on the basis of improved breeding and feeding) it is practically certain that the greater *net* economy will be secured with the higher proportionate increases at the lower yield levels than with lower proportionate increases at higher yield levels. As far as labour economy is secured by increasing yield, it is also probable that the greater economies will be secured with increases on the lower yield levels. Thus it would be judged probable that the greater cost economies are securable at the lower yield levels. These judgments, formed on recent and contemporary conditions, may be falsified by radical changes in scientific knowledge and in resulting practices. If, however, these judgments prove to be correct there is considerable hope for milk producers in this country, provided they pursue economy and efficiency by the right methods.

The average yield is still low when compared with that of some other countries and there appears to be scope for improvement and economy by the further practice of methods of selection and breeding, and feeding, and in the avoidance of disease risks. Improvements in pasture management and in work organisation and equipment for "labour" functions also appear to offer opportunities for further increase in efficiency.

But viewing the dairy industry in the countries chiefly concerned with international trade, whether as exporters or importers, it appears that some migration of capital and labour from the industry must occur before supply can be adjusted to demand. Alternatively, there will be heavy depreciation of capital and severe reduction of incomes as a result of prices which do not cover costs of production. Migration of capital and labour cannot occur until there are openings in other farming enterprises or in other occupations as a result of radical changes in general industrial and economic conditions. In the meantime there will be a struggle between States to avoid either of these alternatives for their own national groups of milk producers. It may just be possible that organisation for collective bargaining, as by the British Milk Marketing Schemes, may succeed in securing a re-distribution of incomes within the nation by raising prices. But there are near-by limits to this process while consumers can exercise free choice in their purchase of foodstuffs. Further, this type of action cannot be successful without some control of production planned on a sound rational basis with the aid of the best possible information on conditions of supply and demand.

But whatever general conditions may arise it appears that British milk producers are, and will remain, in a relatively favoured position, provided that they do not put too much reliance on State assistance or on badly planned collective bargaining or other collective action, and that they do pursue all the possible methods of maintaining and raising efficiency.

DAIRYING IN CORNWALL

By ALEX. GREGG, B.Sc. (Agriculture), N.D.A.

Cornwall, or as it is so frequently called, "the Duchy," is the most southerly, and the most westerly county of England; it is "the first and the last county," and is pre-eminently a maritime county with its rugged and freely indented coastline of some 500 miles. In size it takes fourteenth place among the fifty-two English and Welsh counties.

General.—In considering the Dairying industry in Cornwall it is advisable to note a few of the general characteristics which have a bearing on the matter.

It must be remembered that until comparatively recently Cornwall was considered more of a mining and a fishing county than an agricultural one, for about the middle of the last century there were over 300 mines in operation, employing some 60,000 persons, about one-sixth of the total population, producing tin, copper and other metalliferous products. It was then stated "The wealth of Cornwall lies not in the soil, but under the soil and in her seas," as suggested in the old Cornish toast, "Fish, Tin and Copper."

This is all changed; at the present time there are only two mines at work, and the decline of the fishing has been considerable and still continues. While this decline was in progress we see the evolution of the China Clay industry, now said to have passed its zenith, and even at its best, small compared with the metalliferous mining of the last century.

Coincident with these great changes, have come the great improvement of roads and modern transport—where Cornwall used to get hundreds of visitors, she now gets thousands—in fact, during the holiday season the population of the coastal resorts are doubled. All these changes have had their bearing on the dairying of Cornwall, for Agriculture in a variety of forms is now the main industry, and for the most part the only industry, of the County.

Physical and Geological.—The surface of Cornwall is very hilly, but has no elevation strictly deserving the name of mountain. Cornwall is essentially a table land, out of which rise many granite hills, sometimes roughly serrated and sometimes with soft outlines which with their heather and gorse covered moorlands make varied scenery. Entering Cornwall over the Tamar at Launceston and proceeding to the Lands End there is probably no more striking feature than the succession of granite masses forming a more or less interrupted chain from East to South West, a sort of "back bone" with generally decreasing altitude from Brown Willy of 1,375 ft., on the Bodmin Moors, to Hensbarrow and the White Country of the

China Clay adjoining the Gossmoors, Carnmarth, Carnmenelis and Carn Brea in the Mining district finishing with Trencrom and Godolphin of 530 ft., and the grand granite cliffs of the Lands End peninsula.

The fertility of the soils on the granite depends on the character of the granite, and its rate of decomposition ; all have potash bearing qualities. Altitude is another important factor, while there may be a marked similarity in the composition of the granites of Brown Willy and St. Michael's Mount, the fertility of the low-lying granite soils of West Cornwall is in marked contrast to the fertility of granite soils of the Moors.

The Clay slate or " Killas " extends practically from the Tamar to Mounts Bay, making up the table-land with occasional breaks of basic igneous rocks, and the granite masses are surrounded by broad belts of contact altered rocks, all giving rise to soils of differing characters. The geology of the Lizard district interests the agriculturists in that, where of serpentine alone, the land is poor, but where the serpentine is mixed with other formation, as slates or schists, soils of excellent fertility show in striking contrast.

The soils on the Killas vary considerably from good medium loams growing excellent wheat to those of an almost sandy character. One important factor is the " lie " of the underlying strata—when horizontal it is often productive—on the other hand when the strata have been much folded and are on edge, the drainage may be so free, that the soil is not retentive, and easily burns. The soils on the Killas form some of the best agricultural land in the county.

There are other types, as the Dunstones and the Elvans (both grey and blue) which yield fertile soils but of small extent compared to the granite and elvans.

It will be noticed that there is no carbonate of lime, in consequence the soils of Cornwall are for the most part acid or "sour," in fact, soil acidity is the Cornish soil problem. In this connection it is interesting to note that on the North coast from Bude to the Lands End the many beaches and banks of blown sand contain high percentages of carbonate of lime in the form of finely divided shell. The County Staff have for many years been pointing out that the local shell sand is the cheapest form of liming and a ready means of counteracting the natural acidity of the neighbouring soils. No attempt is made to indicate the many and diverse geological characters ; further, in the opinion of the writer, rainfall, temperature, sunshine and climatic conditions are the dominant influence in the system of farming.

Climate and Rainfall.—Cornwall has many climatic advantages from the agricultural viewpoint, particularly that of Dairying. On its extensive coastline severe frosts are rare ; in the west, snow rarely remains more than a few hours ; fuchsias and geraniums live

in the open all the year round and semi-tropical plants flourish as nowhere else in England. In a long stretch of land, some 80 miles, it is not all advantage; the north coast from Morwenstow to the Lands End is swept by the Atlantic gales which affect vegetation, as is easily seen by the stunted trees all leaning from the coast, but this contiguity to the sea, influenced by the Gulf Stream, all makes for equable temperature.

Cornwall has a heavy rainfall, but the number of days on which rain falls is high, an important point in Agriculture, for the heavy rainfall is more evenly distributed over the year, and prolonged drought is rare; this, with the mean temperature and sunshine (considered later) has an important bearing on the extent of Dairying in the County; it makes for a high percentage of grassland on the farms and for the full use of artificial manures. Tables I. and II. give some interesting rainfall and temperature data and comparisons.

TABLE I.—AVERAGE YEARLY RAINFALL.

Centre.	Height in feet.	Inches.	Average No. of Wet Days.
Plymouth	117	35.9	192
Altarnun	620	59.5	237
Newquay	100	32.6	201
Falmouth	167	41.9	200
Penzance	55	39.9	213
Average*	110	37.6	202
Rothamsted	—	28.3	173

*Omitting Altarnun.

The above table from Davey's *Flora of Cornwall* is an average for 14 years.

Plymouth represents the South East Cornwall District,
 Falmouth " " South West Cornish Coast District,
 Penzance " " Mounts Bay and Extreme West,
 Newquay " " North Coast,

while Altarnun is four miles East of Brown Willy on the windswept uplands, represents the high moorlands.

Rothamsted is included for comparison.

TABLE II.—TEMPERATURE IN CORNWALL.
AVERAGE OF 14 YEARS.

	Plymouth.	Newquay.	Falmouth.	Penzance.
Yearly average	50.9	51.3	52.2	52.7
Range	19.2	17.7	20.0	17.6

There is really very little difference in the temperature of the North and South Coasts—compare Newquay 51° with Falmouth 52°—and the extremes of temperature are narrow; in Cornwall it is rarely very cold and rarely very hot, only 17°—20° between the hottest and coldest months.

The county has also a high sunshine record and during the last 14 years the average at four centres has been as follows :—Plymouth 1,703 hours, Newquay 1,714 hours, Falmouth 1,812 hours, Penzance 1,804 hours.

The following quotation also bears on this point: “An interesting record of ten years bright sunshine from 46 stations in the British Isles, published in 1891 by the Meteorological Council, shows that with the exception of Jersey, Falmouth stands at the top of the list as having the largest percentage of possible duration. By these statistics Cornwall’s position as the county of sunshine is established beyond dispute.”

These weather conditions have an important bearing on our management of dairy stock; many farmers run their cattle in the open all the year round, and even when tied in at night, they are out all day. None are tied in before Christmas, and they are out day and night much earlier than other counties. Tuberculosis is declining in the county and the veterinary authorities assure us it will decline more rapidly as the value of running cattle in the open is better understood.

Population.—The population is approximately 320,000, and is practically stationary (in 1861 it numbered 370,000, the great decrease was chiefly in consequence of emigration due to the decline in metalliferous mining).

There are no large centres of population, Plymouth with about 210,000, being on the border; there are many residential, industrial and market towns, but none of any great size; only Truro, Falmouth, Camborne and Penzance are above 10,000, with some twenty others of 2,000 upwards, widely distributed over the county. It will be seen that Cornwall has a comparatively small population to consume its agricultural products, hence it is essentially an exporting county. One very considerable factor must, however, be taken into account—It is a health resort, and during holiday seasons the population may well be doubled, with a consequent greatly increased consumption of dairy produce.

Area Cropping.—The area of Cornwall is approximately 1,356 square miles, with approximately 70% under crops and grass, and 13% moors, downs and rough grazings, and under 4% plantation and woods. Over 75% of the cultivated land is under temporary and permanent grass, a feature often commented on, and due to the climate and rainfall being so advantageous to this type of farming.

Size of Holdings.—Of approximately 13,300 Agricultural Holdings of over one acre :—

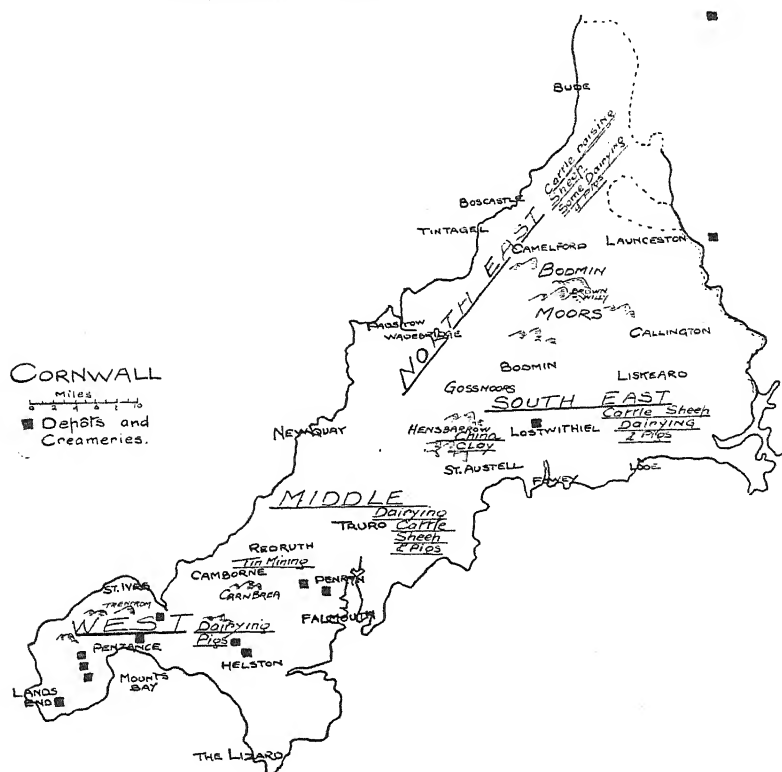
9,300 are under	50	acres, equal to about	70%
2,200 are from	50—100	“ “ “ “	17%
1,800 are over	100	“ “ “ “	13%

It will be seen that Cornwall is a county of smallholdings and mainly family farms, and the number of workers employed in addition to the occupier and his wife is only 1.4 regular workers and .4 casual workers per holding.

Speaking generally and omitting the specialised market-gardening and flower-growing districts around Mount's Bay and the Tamar Valley, the farming of the county is mixed farming—dairying, stock raising, pigs and poultry—and only sufficient land is broken to provide corn, roots and straw for winter feed and bedding.

The County naturally divides into districts :

1. Farms mainly dairying, with pigs and no sheep in the extreme West.
2. Dairying with stock raising, cattle feeding, sheep and pigs in the Middle and South East.
3. Mainly stock raising and cattle feeding and sheep with little Dairying in the North East.



Cow Population.—Omitting the Cattle Raising District of the North East, Cornwall has one of the densest cow populations in the country, amounting to 200 cows per 1,000 acres in the extreme West, which is known as the Guernsey District. There are some 95,000 cows and heifers in milk and in calf in the county, a slight increase in recent years. The number of pedigree cattle is not very high, when the total number of cattle is considered.

Breeds of Cattle.—In the Western district pedigree and non-pedigree Guernseys are almost entirely kept. It is from this district that buyers from "Up country" seek high-grade Guernseys—"Creamers"—to enrich the milk of large commercial herds with a low butter fat content.

There is always a brisk demand for young cows and heifers in milk, but buyers should always make sure of their source of supply. From the Falmouth Estuary to the Lands End, some 145,600 acres, approx. one quarter of the county, with the exception of mining at Camborne and granite quarrying at Mabe, is wholly agricultural and, excluding market gardening and flower-growing around Penzance, is mainly Dairying. There are no large towns and no near centre of population with a liquid milk market. The cow population is very high, being 190 cows per 1,000 acres.

With the exception of the Cattle raising District of North East Cornwall where Devon Cattle predominate, Dairy herds are found in South-East Cornwall and the middle districts in fair quantity; here the breed much in evidence is the pedigree and non-pedigree South Devon. Now that breeders are refining the type—producing a milking strain of South Devon—they are in increasing demand. Large recorded herds of South Devon Cattle, like those of Seale-Hayne College and Dartington Hall, with over a 1,000-gallon average of rich coloured milk, almost as rich as the Guernsey, have focussed attention on this breed in recent years.

In addition there are a few herds of Shorthorns, Friesians and Jerseys. There are 80 Premium Bulls under the Live Stock Improvement Scheme—50 Devons, 11 Guernseys, 10 Shorthorns and 9 South Devons.

Creameries and Milk Depots play an important part in the utilisation of milk and the disposal of products in Cornwall, particularly in the extreme West. Figures of output would be interesting but are only available in confidence. There are thirteen such depots, their distribution being indicated on the map, eleven in the County, and two just outside the border.

A large depot was established at Lostwithiel by Messrs. Nestle's only a few years ago, and its influence has already been felt in that some farmers who never sold milk before are contracting to deliver from some specified number of cows. Milk is bought under contract

and the whole leaves the county in liquid condition, some to the liquid milk market and the remainder to manufacture. The greater part is collected by road from distances up to thirty miles, and part is delivered by rail.

The great concentration of factories is in the intensive milk area, ten being situated in the extreme western district; of these the depot at Penryn, owned by the Plymouth Co-operative Society, is simply a receiving centre, the liquid milk going to Plymouth by rail, and there being retailed by the Society. The remainder are creameries and are entirely engaged in the manufacture of butter and, to a limited extent, at certain seasons, cream. Of the two outside the County one at Lifton, just over the border, three miles from Launceston, and the other at Torrington, some seventeen miles from the extreme north-east border, both collect milk for manufacturing purposes, the former taking the much larger supply.

Prewett, who made an intensive survey of the Western area as one of the typical dairy districts of England, remarks in his conclusions:—"The surveyed district of Cornwall is of particular interest in relation to the general problem of milk marketing and disposal over the country as a whole. West Cornwall, lacking a liquid market, necessarily turns its milk into a non-perishable derivative, in this case, butter, and necessarily, too, works on the world price. But the daily milk output of this surveyed area, extending to less than one quarter of the County, is more than sufficient to provide the milk supply of any town in Great Britain, save London. The existence of this vast supply of milk, which can be turned at once into the liquid market in the event of a hold up in some district more favourably situated for liquid sale, acts as a very effective brake on high-price policy in other parts of the country."

Blending and Re-grading.—Except from farmers near the factories, the cream is collected twice a week in summer and less frequently in the winter. As the winter supply is very much less than the summer supply, a number of creameries place their excess produce from the high summer production in cold storage for blending during the winter. Further, with one exception, in order to keep up contracts, the factories resort to blending with imported butter.

This blending, with even the best colonial butter, has a bad effect on the general price of all butter, even bringing down the price of the very best farm butter. While it is legal to blend, there is no restriction as to the quantities that may be blended and it is quite time that this adverse effect on price should be removed by making it essential to wrap all blended produce in distinctive wrapping, carrying a bold and distinct label, giving the percentage and

the origin of the imported material used. While there is a market for Cornish butter in the larger centres, it would seem that blending offers the line of least resistance at the moment.

In addition to the blending at the creameries, there is an appreciable amount of blending done by butter buyers known as "Re-graders," who also purchase eggs and poultry in the more outlying districts; they take butter as part of their trade and blend it at their homes with imported butter. To a very much less extent this is also done by grocers and butchers who take butter in exchange for purchases; in this last connection by far the greatest amount of butter purchased by grocers and butchers is retailed as received from the farmer.

UTILISATION.

Butter.—By far the greatest quantity of milk is made into butter on the farms, and by far the greatest part of that produced goes to the local grocer, then to the re-grader. A smaller amount is retailed by the producer and a small portion goes by post to consumers outside the county. Prewett states 45% Domestic Manufacture in the Western District, where as previously stated there are many creameries.

Liquid Milk.—Over the whole county the producer-retailer sells to the villages and many small towns. In the larger towns, in addition to the producer-retailer, a part is sold to retailers. Liquid milk goes to Plymouth by rail from the South-East District and from one area around Penryn through the Plymouth Co-operative Society. Some goes to distant markets through the Nestlé's Depot at Lostwithiel.

Cream.—The creameries take cream and in the main make butter and only sell such cream as the demand warrants.

A limited amount of cream is sold in the towns; the demand for the same considerably increases as the numbers of visitors to the county increase; a smaller amount leaves the farms for outside the County by post.

Cheese.—Only in a few isolated cases are cheese and cream cheese made.

Instruction in Dairying.—When one considers that there are more cows in milk than children in our schools it will be seen how important this branch of the work must be. It is in charge of Miss A. J. W. Nicholas, O.B.E., The Chief Dairy Instructress, who is well-known throughout the Dairy World, with two Assistant Dairy Instructresses.

The main feature of the work consists of the Travelling Dairy School. A district is visited for a three weeks' course and the mornings are devoted to children from the Elementary Schools. Here it should be noted that the County was the first to institute

such instruction. The afternoons are set aside for those actually engaged in the industry. The success achieved by this work is shown by the ever-increasing numbers taking part in the competitions at our Shows, and the high proportion of premier awards won at the London Dairy Show. In connection with the Dairy School, particular attention is paid to milking; great progress has been made in connection with Milking Demonstrations, in which pupils from Elementary Schools are conspicuous.

Those wishing to qualify for posts as dairymaids or for the County Dairy Scholarships at Reading University must attend an Advanced Course of one month's duration held annually at a convenient centre for cheese-making, milk recording and other dairy work. The post of the King's Dairy Maid at Windsor has been held by three pupils of the Cornish classes.

Student Judging of Live Stock.—A complete system of Live Stock judging is taught to young farmers in connection with Winter Agricultural Classes. The students visit farms where pedigree stock of all kinds is inspected, and receive instruction in the Judging of Farm Stock by Points; as a result numerous competitions at Agricultural Shows are held. At the last County Show there were 326 entries drawn from all parts of the County from the Lizard and St. Buryan to Bude. The Judges commend the high standard attained. And a further indication of the high level reached is shown by the fact that the blue ribbon in Student Judging was won some six times at the London Dairy Show by the Cornish team in the Cow Judging Contest for Counties and Colleges.

Milk Recording.—Owing to the small numbers of pedigree herds and the very large number of commercial herds with small numbers of cows Milk Recording cannot be said to boom in the County. At the moment the Cornwall Milk Recording Society is suffering from the effects of the acute agricultural depression. In spite of this the Society is a keen and flourishing one, and as prosperity comes back to the industry, the Committee look forward to regaining the lost ground.

Clean Milk Production.—Since 1925 the County Authority have conducted Clean Milk Demonstrations and Competitions. In the first competition there were 16 competitors and the total number who have attained certificates since the start is 124. In 1927 Cornwall were the runners-up in the Inter-County Clean Milk Competition, winning the Competition in 1928 with the award of the "Stapleton" Cup. But the good done by such competitions does not end with certificate awards; there are trade competitors on adjoining farms who tighten up their methods so as not to be too far behind their neighbours, and each competitor is a likely centre of improvement. This year there are 85 entries in the competition, a number both flattering and embarrassing to the Dairy Staff.

These results have led to numerous licenced producers of graded Milk, *viz.* : 1 Certified, 18 Grade "A" (T.T.) and 7 Grade "A" licences are held in the county. When one considers the population of the County with no large outlet for liquid milk it is an excellent result. As elsewhere, the number of licences is no indication of the numbers of producers who are supplying milk up to graded standard, but who see no return for production under licence.

Milk in Schools.—As in other counties this movement is in its infancy, but it is a fine flourishing infant at the moment, especially when one considers the number of unemployed and the general depression. There are 91 schools participating in the Scheme out of 300, and 6,000 children are receiving milk each day.

No producer is permitted to supply milk unless he has obtained a certificate in a County Competition or unless the County Staff consider the producer in a position to supply milk of Grade "A" standard.

Pig Keeping.—In a county with a large cow population and an extensive trade in butter, the separated milk is a valuable product. Calf-rearing can only take a limited proportion, hence we find Cornwall with one of the densest pig populations in the country. According to Long and MacGregor, Cornwall is second in England and Wales with 266 pigs per 1,000 acres of crops and grass. The number of pigs is greatest in the West, followed by the Middle and South-East districts.

Management.—There is nothing outstanding in the general management. Grassland farming is the basis and the high percentage of grassland, with the long period that cattle can be out at grass allowed by the mild climate, with only occasional droughts, rarely of any duration, is all in favour of dairying. Sufficient hay is cut from the seeds and permanent grass to winter the cattle, which in many cases is amplified by oat straw. The root break is small, but really heavy crops are grown by the use of dung and artificial manures. Cabbage, kale and swedes are grown for first feeding, followed by mangolds at the end of the season.

A large and increasing number are using suitable rations, but there are still many using only home-grown food; of course, it must be remembered that the milk is mainly produced in the summer and with a long grazing season the need for expenditure on concentrates for winter production is not so heavy as might be supposed with the large cow population. All through the county some few herds are out night and day the whole year, and the practice is increasing, and will increase when those with poor buildings realise the importance of fresh air in connection with tuberculosis.

THE DEVELOPMENT OF BACON PIG PRODUCTION IN GREAT BRITAIN

By H. R. DAVIDSON, M.A. (Cantab.), Dip. Agric.

One of the most interesting things about the development of bacon pig production is that, historically, it is a phenomenon of comparatively recent occurrence. Before about 1870 the refrigeration of meat had not become a practical proposition and so the curing of bacon, which requires a constant temperature of about 40° F. could only be carried out in winter. It followed, too, that if bacon were to be kept into the summer it had to be very heavily salted. Fat salt bacon may seem very unattractive to modern taste but it is certainly to be preferred to lean meat which has been very heavily salted. Consequently, until the later part of last century, pigs killed for bacon were mostly not less than a year old and nearly always very fat.

About 1870, however, refrigeration came into use not only for storing meat but for cooling curing cellars and the production of a mild cured type of bacon became possible all the year round. It was the development of mild cured bacon which led to its becoming so popular as a breakfast dish, and along with this development came a demand for more lean meat and less fat, particularly from the rapidly growing populations of indoor workers in London and the South. About this time Denmark was just emerging from a revolution in agricultural policy as a result of which she was using cheap imported grain to feed livestock instead of attempting to grow large areas of cereals for sale. At first she found a useful outlet for her pigs in Germany where a type of pig suitable for heavy pork was required. Just about the time, however, when the demand for bacon in Great Britain was increasing, Germany closed her frontiers to imports of pigs from Denmark and the Danes were quick to take advantage of the potential new outlet.

Unfortunately the type of pig which had suited the German pork trade proved to be unsuitable for the more exacting demands of the British Wiltshire bacon trade and the Danes very soon set themselves to improve matters. In the first place they came to the sellers of bacon in this country to find out what class of carcase was required for the trade and followed this up by importing pedigree breeding

stock from Great Britain. This mostly took the form of Large White boars for crossing with the native Landrace sows, though, later on, females were sent over too to form native herds of Large Whites from which boars could be bred in the country.

Although, however, pedigree stock was exported from this country to found the best known stock of bacon pigs in the world, British breeders, according to the late Mr. Sanders Spencer, soon found other foreign markets, to supply which they sacrificed some bacon points of importance either for mere size or else merely for fancy points, according to the whim of the purchasers. It is to this temporarily very remunerative trade in show pigs for America and other foreign countries that we must ascribe the failure of British breeders to develop their stock along commercial lines, and, in spite of the very severe depression since the war, it has not been until the inauguration of the pigs marketing scheme that breeders in this country have shown any widespread interest in the development of commercially efficient strains of pigs.

BACON PIG CLASSES AT THE DAIRY SHOW.

In spite of this general lack of interest, however, the British Dairy Farmers' Association has been responsible for doing more than any other body to stimulate development of the home bacon trade during the difficult period since the end of the war. The class for sides of Wiltshire bacon which was started by the late Mr. S. R. Whitley was one of the first and most successful efforts to guide producers into developing the type of pig which it was hoped would help to fight against increasing foreign competition. It was based on the assumption that the bacon trade was likely to be more important to us in the future than the production of pork, and that in the development of the bacon trade it was essential to determine which of the 14 officially recognised breeds would prove to be most suitable. The "Whitley" Class, and the "Beale" and "Bledisloe" Classes which followed it, while successful in drawing a certain amount of attention to the importance of bacon production, produced a crop of problems which caused a good deal of difficulty and misunderstanding at first.

For example, owing to the original condition that all entries must be made by breed societies and not by individuals, the Large White, Middle White and Tamworth breeds, controlled by the National Pig Breeders' Association, were not at first represented in the competition, and the absence of these breeds from the awards list naturally caused some confusion. Then it was found in practice that different breeds were winning the first prize each year so that it appeared to be impossible to determine whether any one breed were really any better than any other. While it is, of course, true to say

that one of the points brought out by the study of the production of bacon is that strain is of more importance than breed, it is equally true to remark that the typical differences of the different breeds were not being fully brought out by the method of adjudication at first employed. Rather too much was being left to the opinion of the different judges who in some cases were thinking in terms of light Wiltshire bacon and in others of a much heavier type of bacon more in favour in the north.

BRITISH TECHNICAL INVESTIGATIONS.

In the meantime, and in spite of the lack of official and commercial support for a development of pig production in this country, a considerable amount of careful investigation of the problems involved was being made by British scientific workers. The possibilities of applying the available knowledge of genetics was being closely examined at the Animal Breeding Research Institute at Edinburgh. At Cambridge, Dr. Hammond and his colleagues were studying the best foreign methods and the possibilities of their adaptation to conditions in this country. At the Rowett Institute, Aberdeen, the formation of a large commercial herd afforded an opportunity to try out on a practical scale many of the ideas which presented themselves.

In the course of the investigations a considerable amount of evidence was collected as to the measurements and qualities of the different grades of bacon, and in 1932 an improvement was made in the method of awarding marks at the Dairy Show bacon classes by giving nearly half of them for actual measurements taken on the competing sides of bacon themselves. At the same time certain other adjustments were made in the schedule of marks which made the adjudication both more accurate and of greater educational value to the visitor.

Scientific investigation of the whole problem of pig production, however, made it clear that more was involved than merely the production of bacon which would satisfy the demands of the consumer. Even supposing that carcase quality were to be recognised by differential payment, which did not take place to any appreciable extent before the Marketing Scheme contract, the question of profit to the producer was still affected by two other factors. In the first place, the cost of the weaned pig is of primary importance and this in turn very largely depends upon the average number of pigs weaned per sow per year. Secondly, as feeding costs amount to about 80% or more of the total production costs, the amount of food which is consumed in growing from weaning to slaughter is a major factor to be contended with.

Producers in Denmark and Sweden had for a considerable time been studying these factors and were developing methods of livestock improvement that would give them due importance. The method of show yard judging adopted in this country, and based largely on fancy points, found little support in Scandinavia in comparison with these newer methods which can now be very briefly outlined.

DANISH TESTING STATIONS.

In Denmark there has, for a considerable time, been a well organised system for registering the details of fecundity of the different strains of pure-bred pigs. What Danish breeders wanted, therefore, was information on the food consumption and the carcass quality of different strains and lines of breeding, because, in a small country where feeding and management have become very closely standardised, it is natural to look for further improvement along the lines of heredity. For this reason testing stations were developed where the offspring of any given mating could be fed under exactly similar conditions to groups from other litters. In this case the actual amount of food required to produce 1 lb. of live weight gain is carefully measured, and the exact measurements of the bacon produced from the pigs are recorded. Accordingly strains which give economical figures for food consumption and a high proportion of first grade bacon sides can be detected and used for more intensive breeding.

SWEDISH LITTER RECORDING.

Sound as this method may be in a country where the geographical distribution is compact, and where methods are consequently standardised, it has obvious disadvantages for countries with a widely spread pig population and corresponding variations in housing, feeding and management. For this reason Swedish pig experts adopted a method of improvement which, while more loosely constructed, was at the same time capable of more widespread application. This consisted in weighing and counting litters of pigs at 3 weeks of age, that is just before the piglings begin to eat solid food. As this method of recording was applicable to all the pigs on a farm and to practically every farm in the country, it gave a much larger number of results from which to draw conclusions. Except, however, in cases where it was possible to send recorded pigs to the only testing station then existing in Sweden, it gave no indication of the food consumption nor the quality of the carcasses.

EAST ANGLIAN PIG RECORDING SCHEME.

It is at this point that Great Britain steps into the picture. In 1926, after a study of foreign methods on the spot, a scheme for improving pig production was drawn up at Cambridge based on both the Danish and Swedish methods, with several modifications

and additions necessary to adapt it to conditions in this country. After some negotiations as to how widely this scheme might be applied, it was very wisely decided to confine its operation to one well-defined pig producing area so that improvements based on its working under practical conditions might be incorporated before it became more widely adopted. Consequently in 1927 it was put into operation as the East Anglian Pig Recording Scheme for a trial period of three years.

This scheme adopted a modification of the Swedish method of recording details of fecundity while, in addition, records were kept of the age at which all the pigs in the litter reached a weight suitable for bacon and of the essential measurements of the carcase. The outstanding difference between this method and the Danish testing station technique was that the age-for-weight was measured instead of the food consumption. A close investigation of all relevant data had shown that the two were very closely related and it will be readily understood that, whereas it is in practice only possible to record the actual food consumption of a very small number of pigs, the age-for-weight of every pig in the country could be ascertained without much trouble. It will be realised at once that age-for-weight may be controlled both by the inherited capacity of the individual to grow rapidly and by the feeding and management which it receives. The British pig recording scheme does not select so definitely as the Danish testing station method the quickly growing strains of pigs. On the other hand, the authors of the plan considered, from the evidence available, that in this country the first great step in development lay in improving the average standard of feeding and management, and that when this had been done by a recording scheme which was better suited than more refined methods to reach the great bulk of producers, the same scheme would then be of use for improving inherited characteristics. However, in order that the genetic side of the problem should also be tackled, a testing station was established at the Animal Breeding Research Station at Edinburgh. At the same time the Duthie Experimental Stock Farm, associated with the Rowett Institute at Aberdeen, was very fully recorded so as to act as a control and demonstration herd to determine the standards of production which it was possible to achieve under modern efficient methods of organisation. The close liason maintained between these three undertakings made it possible to examine a number of problems in technique as they arose.

By 1930 the position was that a sound start had been made with pig recording in this country and it was then possible to compare the results which were being obtained in practice from recorded herds with those from the control herd where the most up-to-date methods were being employed. Without going into details, it need only be

said here that the improvements which it was demonstrated could be achieved by improving feeding and management and using tested strains of pigs, amounted to as much as 2s. per score of carcase.

Just as this work was developing, the acute economic depression led to the withdrawal of financial support and the testing and recording work had consequently to be closed down in 1931. This was all the greater misfortune inasmuch as within less than two years the Report of the Pig Reorganisation Commission was to include recommendations for the widespread development of just such a service as had been tried out.

It was here that the British Dairy Farmers' Association again stepped in to give its support to the movement. Although the original schemes, organised by means of State funds, had been disbanded, the urgent necessity to do something along more practical lines than merely pedigree breeding was becoming obvious, and several of the County agricultural organisations undertook to do a small amount of recording on a simplified basis. One of the main drawbacks to this, however, was the lack of support for recorded pigs at the agricultural shows. In 1930 a class for recorded pigs was made available for the first time at the Dairy Show and several very good entries were made. In 1931, owing to the state of economic uncertainty, the class was abandoned, but in 1932 and 1933 it was again open to producers and in both years the best sides in the Show came from this class. The donation of a permanent challenge cup in 1933 to this class has further stimulated interest and there is some likelihood that other shows may now adopt a similar classification. The point which differentiates this class from the other bacon classes in the show is that it gives credit for those points which are of vital importance to the producer (fecundity and age-for-weight) as well as for carcase quality which is largely a matter which concerns the curer. A class confined entirely to bacon points does not make clear whether it really pays the producer to produce high quality bacon, while it encourages the production of one or two pigs of outstanding merit at the possible expense of the other members of the litter.

THE PIGS MARKETING SCHEME.

When considering all these efforts which have been made up to 1933 to encourage the development of bacon pig production in this country, it must be remembered that the industry suffered from so many inherent drawbacks that it seemed impossible to get sufficient support for the adoption of such methods as investigation had shown to be necessary. With the coming into operation of the Pigs Marketing Scheme the situation has been reversed. There is a danger that producers will want to rush pigs on to the market on a

scale incommensurate with their knowledge and experience of production, and before the organisation of methods for improving efficiency can take place as outlined under the activities for the Pig Industry Development Board. Now that events have put the future development of the agricultural industries almost entirely in the hands of those industries themselves we cannot expect to look any longer to the Ministry of Agriculture for assistance. Pig producers, as an organised body, must control their own destiny and the technical steps taken to further the development of bacon pig production would seem now to be passing into the hands of the Pig Industry Development Board. Just what line will be adopted by this Board is at present uncertain, but in view of the fact that the main outlines of the British recording scheme have been successfully adopted in the competing overseas Dominions of Canada and New Zealand, it is difficult to see how further development in this country along the same lines can be avoided.

GRASSLAND TENDENCIES AND HOPES

By GERVAISE TURNBULL, A.R.A.C., A.L.A.S.

An enthusiast, though an expert in this matter, has recently gone the length of saying that more progress has been made in grassland problems during the past ten years than in the previous four hundred.

If this be true it portends much, and behoves all who have not yet done so to take notice. This exuberance of opinion will doubtless cause the older graziers to smile, for the discovery of old lore has before now in farming been served up as new.

Still, many new facts have come to light in this wonderful decade, and more perhaps have settled down into such clearer perspective that we can now put our knowledge to better account financially. All this is to the good of a nation rapidly turning pastoral, but we must revise our beliefs in some directions and assimilate in others.

PRESENT DAY TENDENCIES.

To take a practical instance of the former—hay. Not many years ago we were taught that stem and ear were paramount, while leafiness was associated with second cuts. To-day the advocates of indigenous grasses are daily waxing more enthusiastic over the merits of the leaf—more palatable, more nitrogenous and far more nutritious. It seems correct, too, judging by analysis and grazing results, and by the astonishingly better output of sown indigenous grasses like cocksfoot and rye grass over that of commercial seed growths of the same grasses—the increase in one experiment running to five-fold proportions in the case of cocksfoot sown at the same date. When we consider that the *seeds* of grass, as such, have never been of much account as fodder, we may well prefer the much more abundant leaf of the newer kinds. Rye grass, in particular, is found one of these grazing treasures, but they had, let us admit, more knowledge of this grass a century ago than we actually have to-day, and far more strains were even on the market.

In this matter, however, notable advance has been made, and the indigenous strains of the near future seem to hold great possibilities, which all should note, and of which but few possibly are yet aware. Yet they are to be seen in a glorified form here and there, growing wild, even on a city roadside.

A great and significant point about them is that they especially benefit by the treading of grazing animals, and if they only result in the disappearance of the tufts which yearly cause great waste they will have a warm welcome, especially as their leafiness seems to be particularly noticeable in temporary leys. Both earlier and later keep they also seem to promise. But it is by their permanence that many will value them most, for it is now realized that even our best "seedsmen" grasses often die out after a few years in new sowings, and if the more "natural" grasses can be given an assured place straight away, instead of waiting for an (uncertain) appearance after a term of years, their extra cost over their stemmy brethren will be well worth paying for.

A very interesting development in this line has already proved itself in sowing down in Wales. It combines the differing good points which are found to lie in various strains of "natural" grasses (and of clovers) of the same species, lateness and earliness being thus combined without unduly multiplying the species used. This is akin to using a combination of leguminous plants to forestall the "sickness" which one kind alone often brings, a method still too little practised or understood. *The recent authoritative English advice, however, is that the extra cost of indigenous seed is not yet warranted, except with rye grass, cocksfoot and wild white clover.

Let us hope that this movement may itself bring into more profitable use such old time and true friends as meadow foxtail and meadow fescue—grasses which are being ousted from their old and well tried position, owing to their being often overwhelmed at birth when sown, by the persistent attentions of their bolder-growing rivals, born of seed-forming parents.

The ruthless economy of the day—at any rate in Wales—has taken the wind out of the sails of the older school, which advocated a little of everything (to make sure of a plant), and has insisted that each species shall prove its own use and pay its own way. But, maybe, this can be carried too far, and we must not forget one point which has emerged from the "battle of the meadow"—the refining influence of some grasses on others. This is a practical point. Cocksfoot, for example, gets notoriously rough, but it is definitely indebted to the neglected golden oat for its chastening influence when growing alongside. Again, rough meadow grass and dogstail in particular wage war against bent, though wild white clover takes the lead, literally stabbing its way through ugly tufts.

SIMPLICITY.

Moreover, experts are not unanimous in discarding even foxtail and meadow fescue, and the long lists still seen in trade catalogues

*School of Rural Economy, Oxford University, 1932.

are chosen under scientific advice. Still, a number have been ruled out of court by the newer school. Yet we must remember that there is nothing which is intrinsically wrong with such plants now under rather a ban. Foxtail and meadow fescue, on the contrary, are admitted by the banners to be of great excellence, as proved by their forming part of the very best pastures, and tall fescue (quite recently under adulation), though reed-like, seems to be nutritious. Yet if they can't justify their existence early they must go. That seems to be the modern ruling.

There are fashions, however, in grasses as in other crops, and the once lauded Fiorin is now seldom named, except perhaps for golf courses.

This exclusion naturally tends to simplicity which is perhaps the most noticeable trend of expert opinion to-day. It is significant, and should be a source of considerable joy to farmers, for the subject is undoubtedly a complicated one, and difficult at best.

It is always refreshing to clear away lumber, and the agricultural pedant "with loads of learned lumber in his head" has been the bane, and perhaps the despair, of the earnest minded farmer seeking help. He was a little too busy with a fresh prescription for any change of soil, climate or geological formation, and fortunately some of the simpler mixtures have done well over considerable soil and climate areas.

INDIGENOUS GRASSES.

Those farmers, however, who find in their pastures considerable amounts of grasses which are not really "fashionable" to-day need not be dissatisfied. They are probably indigenous arrivals, useful enough when there, like the small fescues, tall oat, smooth meadow grass (both kinds of meadow grass sometimes appear rapidly and in abundance)—even barley grass, which some like, upright brome in places, and dogstail in abundance. Their value is largely in their suitability to the soil, more persistent and reliable, though less fat, than exotic growths which die young and leave richer memories.

I recently looked for Timothy and Foxtail, for example, in the poor clay of Cockle Park, and found little but poorer native stuff, with rye grass—though encouragement had not been lacking—the same rye that was also to be seen in small patches in the absolute marine sand of the coasts, wrestling with rubbish.

Fashions may change again, and it is amusing to find, a generation ago, Fitzwyram, a great authority on horses, rating rough meadow grass as "very inferior," to be classed with Fiorin, Field-brome—and worse stuff, and barley grass as "bad," though allowing that on R.M.G. cattle thrive pretty well; while vernal is among his six "best"!

YOUNG FARMERS' CLUBS.

By CAPTAIN O. W. DREW.

One of the oldest arguments against popular education was that if everyone were educated, no one would be left to do the rough manual labour. The opposite of this was the ideal of a career for everyone, open to his talents, irrespective of the station in which he was born. In our generation, although we have seen immense progress towards the fulfilment of this ideal, the question has frequently been asked whether or not there is a debit as well as a credit side of this account of educational progress.

Quite recently, some remarkable figures have been given shewing the increase in the number of scholars in secondary education. It was stated that nearly half a million pupils, or nearly 10% of our school population, are in Secondary Schools. Are these statistics as gratifying as they appear?

The expressed opinion of a well-known educationalist is that this large proportion of scholars receiving secondary education corresponds to a drain of the best ability of the country from productive industry into other occupations. Out of every 100 who go to Secondary Schools, fewer than 15 enter any kind of industry, and the rest go into academic, professional, or "black coated" occupations of one sort or another. For 25 years the picked boys and girls from elementary schools—rural as well as town—have been transferred to Secondary Schools, and very few of the country lads have returned to the land. Instead, more and more have been attracted by occupations which are considered "respectable," and in which manual work is replaced by a seat in an office chair, or a position behind a counter.

Young Farmers' Clubs exist to demonstrate the dignity of land work, its interest and value, and, now that there is a brighter outlook in agriculture, the attractive probability of a successful career in which there is scope for the exercise of all the faculties bestowed by the fates. These Clubs are open to **any** boy or girl between the ages of 10 and 21, who has the necessary facilities for keeping something which "lives and grows," be it animal, bird, or plant.

ORIGIN, HISTORY AND GROWTH IN OTHER COUNTRIES.

It is just over 20 years ago that the Young Farmers' Club Movement originated, and only some dozen years since it became recognised as a national institution in the land of its birth—the United States of America. The idea of the movement is said to have emanated from a letter written by a small boy which ran: "Will you please help me to buy a pig."

The individual to whom this letter was addressed started a Club in 1912 with a small membership, and to-day more than 1,000,000 boys and girls belong to the Calf, Pig, Poultry and Corn Clubs of the United States of America. They produce annually more than £1,500,000 worth of food.

It is rather a remarkable thing that the movement has developed to a much greater extent elsewhere than in England. In fact, its growth may almost be considered to constitute a measure of a country's conception of the national importance of its agricultural industry.

America, with nearly 1,000,000 members—as already stated—leads the way. In Canada the members number some 20,000. In Sweden the movement has become of considerable importance with about 400 Clubs and a membership of 15,000. In Denmark, a comparatively small State, there are 9,000 members.

In our Dominions, too, in Australia and New Zealand the movement is growing rapidly and is more closely linked to the Schools than is the case in other countries, with the possible exception of America, where Young Farmers' Club work is considered part of the national system of agricultural education, and is guided and developed under a scheme financed by the State. Also, while the care of animals is the basis of club work all the world over, the cultivation of crops has a bigger share in the programme of Young Farmers' Clubs abroad.

In Northern Ireland the movement was started in 1929 as an off-shoot from this country, and in a short time has developed to a considerable extent, there being over 30 Clubs now actively at work there. In Scotland also, Clubs have latterly been started.

HISTORY AND GROWTH IN ENGLAND.

The movement came to England in 1921 and was sponsored by the late Lord Northcliffe. Under the auspices of the *Daily Mail*, and with the help of United Dairies, Ltd., Clubs were started in several places. Prior to this, however, there were in existence in some counties, agricultural groups, generally styled Young Farmers' Discussion Societies. They differed from the type of organisation now introduced in that members did not necessarily look after stock—a prime condition of the Clubs under review—were largely farmers or farmers' sons, most of whom were adults. Several are in existence at the present time and are doing useful work.

In order to facilitate contact between the newly-formed Clubs in England with those of longer standing in America and Canada, Lord Northcliffe gave a Gold Cup for annual competition in Dairy Cow Judging.

Since 1930, the Royal Agricultural Society of England has kindly

allowed facilities for holding this contest at their Show. The *Daily Mail* still annually presents medals to the members of the winning team at this event.

1924-28.—On the death of Lord Northcliffe the policy of the *Daily Mail* in regard to the movement was changed, and the Ministry of Agriculture, considering the movement too valuable to be allowed to die, decided to accept responsibility for its maintenance and growth.

The supervision of the Ministry of Agriculture continued for four years, during which time there was considerable expansion, so that, by the end of 1928 there were some 50 Clubs in existence with a membership of between 600 and 800 boys and girls.

The method of campaign adopted had not, however, proved wholly satisfactory, for it had tended to lead to an irregular distribution of Clubs, and to their working as isolated units rather than as living parts of a national organisation. It was felt that future methods should aim at knitting the Clubs together and encouraging the members themselves, through a suitable administration, to manage their own affairs. Accordingly, with the collaboration of the National Council of Social Service, a new Scheme of development was evolved.

A Central Advisory Committee was set up, consisting of persons who had been active in the movement in the past, and of others interested in its future development, and known also for their work in the sphere of agriculture. After meeting several times, this Advisory Committee called together in early 1929, all the Club Leaders in the country, and at this gathering it was decided :—

- (1) To form a National Association to which Clubs could affiliate.
- (2) To issue a badge of affiliation.
- (3) To publish a Magazine devoted to the interests of Club Members.

It was made possible to carry these decisions into effect by grant aid from the Ministry of Agriculture, supplemented by financial assistance from the Carnegie United Kingdom Trustees.

1929.—During this year progress was shewn in several directions. Many new Clubs were started and Club membership nearly doubled. Two or three County Federations were formed and the badge of the Association was proudly worn wherever Club work was being carried on.

1930.—In 1930, the movement continued to advance and won the regard of the public and the support of such bodies as the Royal Agricultural Society of England, the National Farmers' Union and the British Dairy Farmers' Association.

While there was no spectacular increase in the number of Clubs, progress was steady and sure and many more Clubs started active work. A notable development of this year was the increased support of Local Authorities, urged by the Ministry of Agriculture to expand their scheme of agricultural education to include the formation of Young Farmers' Clubs.

1931.—In 1931, the movement again grew slowly but steadily. During this year the generosity of the Carnegie Trustees made possible the appointment of two assistants to help the original organiser, appointed in 1928, with the work of keeping in touch with established Clubs and of starting new ones.

1932.—Early in 1932, the constitution was modified and the present National Federation came into being as an independent body. During this year there was again an increase in the number of Clubs and other County Federations were formed. A marked feature of this year was the increased facilities given by agricultural societies at their annual Shows for Young Farmers' Club Cattle Judging Contests, while classes for the shewing of their stock were provided in many instances.

1933.—In 1933, it may truly be said that at very few of the important shows have Young Farmers' Club competitions been omitted. A noticeable result of these contests has been the advance in the standard of the judging by the young people. One of the judges at the Bath and West Show in his broadcast review of the contest to the assembled crowd said : " I think an enormous development in Stock Judging has been made this last year or two, due to the work of the Young Farmers' Clubs " ; while at the International Contest at the Royal, it was stated that : " The standard of the work done in placing the cattle is the best we have ever had."

Significant of the growing spirit of co-operation amongst Clubs is the number of Rallies and Inter-Club Meetings that took place for the first time during this year. The movement is indebted to the Universities of Reading and Leeds and to many Farm Institutes and Experimental Stations up and down the country, who have provided hospitality to its members, and have demonstrated and explained to them some of their most up-to-date experiments and operations. These meetings do much to foster and encourage a spirit of friendliness and co-operation and their educational value is unquestionable.

Another interesting feature of the Federation's work, which also sheds a light on its growth, is the increase in the number of Club Teams that, through the courtesy of the British Dairy Farmers' Association have competed each year at the London Dairy Show in the Dairy Cow Judging Contest.

Thus in 1928 there were 3 Teams

„	1929	„	„	6	„
„	1930	„	„	9	„
„	1931	„	„	16	„
„	1932	„	„	26	„
„	1933	„	„	27	„

Owing to the remarkable increase in the number of teams competing in 1932, it was found necessary in 1933 to arrange for entries on a county basis, two entries only per county being permitted, as a maximum. Even so, there was an increase, and the popularity of this competition is causing concern to those responsible for its organisation owing to the restricted space available at the Royal Agricultural Hall.

It will thus be seen that from early 1929, when the National Federation first came into being, there has been steady growth in the movement, shewn by an increase at the end of each year in the number of Clubs in active operation. Some of the older Clubs have, as is natural, ceased to function, but new ones are continually being formed in various places up and down the country.

While the aim of 1933—a total of 200 Clubs with 4,000 members—was not realised, the aggregate of all the active Clubs in the country falls very little short of these figures.

CLUBS AND THEIR METHODS.

The work of arousing interest in the formation of a Club in a district may be done by private individuals, voluntary organisations, *e.g.*, the National Farmers' Union, or official agencies, *e.g.*, The County Agricultural Staff.

The first step to be taken is the calling of a public meeting to which prospective members, their parents and any members of the general public who are interested are invited. The meeting is usually addressed by one of the Federation's organisers. If it is decided to form a Club, members are enrolled, and an Advisory Committee and Club Leader (usually adults) are appointed. The Club elects from among its own junior members its chairman, secretary and treasurer to carry on the work under the guidance of the Club Leader.

The decision of the kind of stock to be kept is influenced by the conditions of the County. Thus in Kent, horticultural and poultry clubs are popular. In Sussex, the majority are poultry clubs; while in counties where grazing and dairying are practised, calf clubs predominate. This latter type of club is by far the most numerous. There are, too, a certain number of mixed Clubs, where each member selects the particular kind of enterprise best suited to his tastes and circumstances.

Various methods are adopted to raise the necessary money to buy Stock. The sum required varies with the type of stock to be

kept. In Calf Clubs, the Advisory Committee sometimes makes a loan direct to the Club or acts as guarantors in order that a loan may be raised from the Bank. In other cases again, County Councils have provided the capital, either as a loan free of interest, or partly as a loan and partly as an outright grant. All stock is insured at purchase. This is now generally arranged through the National Farmers' Union Mutual Insurance Society, which issues a special policy for our Clubs.

The method of purchase usually adopted is to buy the stock young. It is then distributed to members who keep it until it has reached a selected age—in the case of calves a year to 15 months old is considered a good time for disposal—when a Show and Sale is held. Prizes are awarded, and the beasts are sold by auction.

The first charge of the proceeds of the Sale is the repayment of the loan to the guarantors. The cost of feeding is deducted. This has been carefully noted month by month along with all other expenses in the Record Books with which each member is provided at the outset. If a profit is shewn a percentage goes to the Club and the remainder is distributed to the members. The stock-rearing enterprise of each member is regarded throughout as a miniature business and not as a hobby, and every effort is made to maintain a business outlook with regard to it. The Record Book when complete is at once a history of the enterprise and a complete cost account. In the case of a Calf Club, for example, the purchase price and date are entered; the consumption of milk and other food is recorded in detail, both as to quantity and cost; any ailments are noted along with the treatment adopted. The books are examined and checked by the Club Leader month by month and his observations are written in after each inspection. Finally the book shows the price received at the Sale, any awards won, and a profit and loss account.

During the year, the Calf has been regularly visited by members of the Advisory Committee and the Leader.

The running expenses of the Club are met out of club funds which are raised by special efforts of one kind or another. Dances, concerts and fetes all add to the fun of being a club member, and bring in money as well. All affiliated Clubs subscribe towards the expenses of the Headquarters of the Federation at 16, Russell Square, London.

While stock keeping and the training in stock judging forms, perhaps, the most popular part of Club activities, other practical aspects of farming are not neglected.

Milking trials, ploughing and tractor demonstrations, thatching, hedging, etc. have all formed part of Club activities.

Lectures on many subjects relating to agriculture in general, or to the type of stock or crop that is popular in the district are given at the monthly Club meetings. The technical experts from the Agricultural Education Authority frequently attend and give their advice and guidance.

If there is no visiting speaker, one of the Club members will probably read a paper on some subject on which he is specially interested. To those of us of the pre-war generation the ease with which these young people preside at meetings and speak in public is astonishing.

THE BENEFIT OF THE MOVEMENT TO ITS MEMBERS.

Young Farmers' Clubs mean far more than the rearing of a calf or pig or the raising of a crop. Initiation into business methods is effected by the keeping of the necessary records and accounts of costs and receipts. Equally important is the introduction which members obtain to the conduct of meetings, the art of public speaking and to the organisation of their own affairs. Members are taught to shoulder responsibility through being answerable for the lives of the creatures entrusted to their care. They acquire a proper pride in achievement through their yearly Shows of Stock, and are helped through this movement to realise that all the best things in Britain are not in Britain's towns—many things worth while can only be found in the country.

The movement thus furnishes, in an interesting and profitable way, a basis for the development of character and intelligence by linking educational facilities with the things that are the realities of life to country folk.

ITS NATIONAL VALUE.

The townward drift of country youth has for some years past caused grave concern to all who have the well-being of the nation at heart. There are many who believe that the salvation of rural England will depend upon the extent to which young people are influenced to take a practical interest in good husbandry, and are induced to remain in the villages rather than gravitate to the towns. There is no doubt that the skilled work on the farm is being largely carried on by the old hands. Young people have left the land in recent years in increasing numbers because they saw no hope of ever making a living from agriculture. They feared the heart-breaking drudgery which appeared to be their lot if they looked to the land for a livelihood. Then, too, a notion has been prevalent that agricultural work was an inferior kind of job which no really keen or intelligent young person would choose to follow. The description of a good lad as "far too good to make a clodhopper" represented

the popular view. But the opposite view is growing—that there is room in agriculture for the very brightest young people in the country side.

There is, too, little doubt that the competent agricultural worker was at all times far more skilled than any factory hand. To-day, he has the prospect of a good deal of tedious toil being relieved by the use of machinery, in itself likely to arouse more interest to an intelligent mind. Also, in many other ways, there has been a decided change for the better. Modern conveniences—water, drainage, electric light and better houses have made the country a pleasanter place to live in. Above all, I believe we are now entering upon a new era which should bring prosperity to those who avail themselves of the increased knowledge at their disposal. The Young Farmers' Club movement, properly fostered and extended is, by its very nature, an excellent means through which assistance may be given to an agricultural revival. Club work can create a new vision of the possibilities of country life, and develop the instinct to farm, not in a happy-go-lucky fashion, but with a thorough understanding of live stock and the principles of good husbandry; exemplifying the fact that farming is a business which calls for good brains more than brawn, and that in comparison, the ordinary commercial vocation is merely humdrum.

Just as other countries have proved that these Clubs lead large numbers of young people to take up agricultural pursuits with a keen desire to learn up-to-date methods, so in this country an extension of Club work should have similar results.

Club members who decide upon an agricultural career will be better equipped; and those who go to other work will take with them an interest which must help to spread an appreciation of, and sympathy with the problems of agriculture. In addition, the various recent marketing schemes should tend to make an agricultural career more attractive.

With its ever increasing numbers, the Young Farmers' Club movement is doing valuable work, some of the results of which must remain unseen until the present members grow up and have farms of their own.

In the meantime it is giving the next generation of country people the right start—in practical husbandry, in appreciation of new knowledge, and in the spirit of pulling together. These things are surely sufficient to recommend it to any right thinking farmer who has his son's interest at heart and to any son who wishes to carry on the traditions of his father.

PROGRESS IN GOATKEEPING

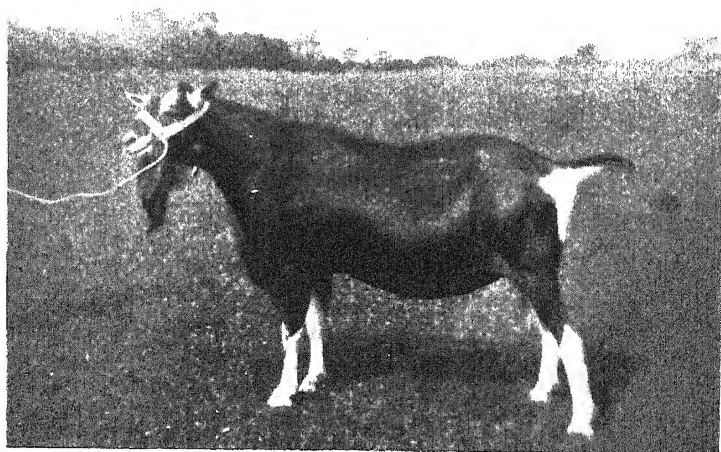
By THOS. W. PALMER.

Many articles concerning goats have appeared in this publication, several of them compiled by Mr. H. S. Holmes Pegler. It is a great pity this gentleman could not accept the invitation extended to him to write in this issue, as no one is more qualified than he; Founder of the British Goat Society in 1879 (one year after the British Dairy Farmers' Association had come into being) and Hon. Secretary of the Society for 33 years, he must have seen more progress in goat breeding than any other person. On the Society attaining its Jubilee, the members recognised this and showed their appreciation by subscribing for the purchase of a Trophy to be known as the "Holmes Pegler Jubilee Challenge Trophy" to be offered at the Dairy Show (in view of Mr. Holmes Pegler's unique record in connection with that Show) for the goat gaining the highest number of points under the following conditions:—For the milk recorded for the year, for quantity of milk yielded at the Dairy Show and for Inspection—the winner of the Trophy to hold it for one year and receive a small replica.

Goat Breeding.—In breeding, the pioneers had many obstacles to contend with, three of the major being the stunted growth of the animal, low milk yield and short period of lactation. The stunted growth was due to the fact that these animals, if allowed to, will mate and breed before they are 12 months old—the period of gestation being 5 months—consequently it was thought wise to discountenance this practice by offering prizes at shows in the first instance mainly for inspection, when naturally the largest and best proportioned animal won the prize. Breeders soon discovered that to produce good stock it was better to breed from matured animals, and kept back the females from breeding until they had attained the age of from 15 to 18 months. A further encouragement in this direction was made by the British Goat Society when they instituted Inspection Classes for female goats between the age of one and two years which had not borne a kid. These animals are now known as goatlings, a description first applied to them by the late Mr. B. Ravenscroft. Enthusiastic breeders also imported goats from abroad, or purchased them from importers of animals. There were no regulations prohibiting the importation in those days. This



The "Holmes Pegler Jubilee" Challenge Trophy.



British Alpine Male Goat.

all tended to induce breeders in this country to consider the physique and stamina of the goat, and gradually but none the less surely the standard improved, until to-day we have animals which will compare most favourably with any in the world.

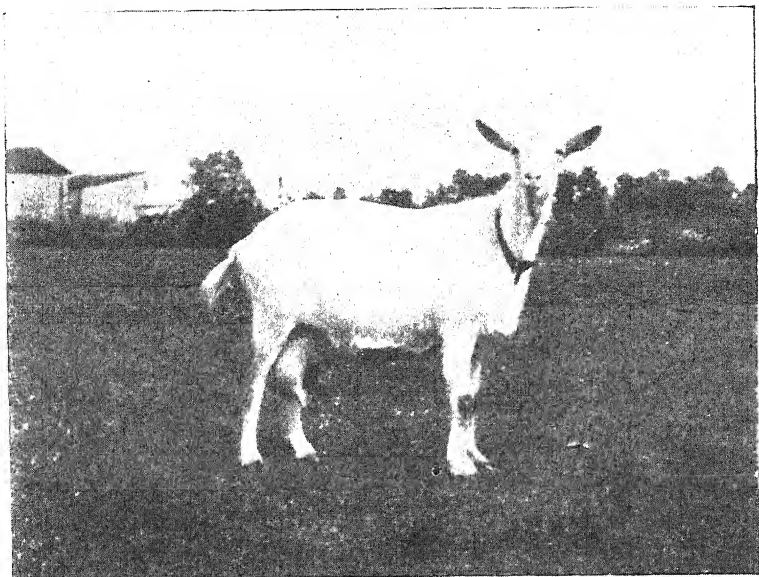
The second disadvantage—low milk yield—was also tackled ; in the early days, a yield of about two quarts was considered good. In this connection it should be stated that breeders did not study type but went for milk ; they therefore endeavoured to obtain the best male goat possible irrespective of its type, thus in looking through the pedigrees of some goats you will discover they are of very mixed blood ! To aid this part of the improvement, the British Goat Society secured the institution of milking classes at various shows, the foremost being the Dairy Show, which has taken a prominent part in the advancement of the goat. Prizes were offered in some cases for quantity, and in others for quantity and quality of milk ; the yield steadily increased, and when goats were found to give 7, 8 or even 10 lbs. of milk per diem under test, it was thought that the limit had been reached, but by improving the growth of the animal and experimenting with the feeding—especially taking into account balanced rations, etc.—the gallon goat instead of being a rarity has become commonplace, and yields of from 15 to 18 lbs. per day when a goat is in full flush are of frequent occurrence. The highest yield under test at a show is 21 lbs. 6 ozs. given by “ Ch. R 3 Whimsical of Westons Q*Q*”, owned and bred by Miss Chamberlain. This record yield was given in 24 hours at the Bath & West Show held at Torquay in May 1930.

The third stumbling block which faced breeders was the fact that the lactation period of the goat was a very limited one ; this was probably due to the animal in its wild state only requiring sufficient milk to rear its young. By breeding and management, this difficulty has to a very large extent been overcome. At one time it was practically impossible to obtain goats’ milk during the winter months ; now the majority of goats continue in milk until 6 or 8 weeks before they are due to kid again—in some cases they cannot be dried off before they kid again. It is practicable to keep goats in milk for two or three years ; they yield quite well during the winter months and then “ flush ” again in the spring, and continue to milk well until the autumn.

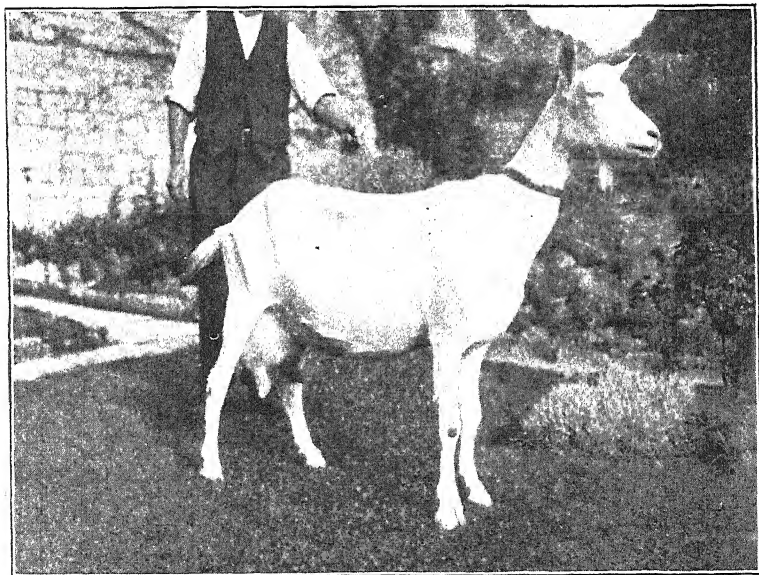
So far, it has not been found possible to get a goat to kid down to suit the breeder’s convenience. The mating season is from August to February—the kids are born from January to July, the larger percentage during the months of February to April. If we could get



British Alpine Female Goat.



Saanen Female Goat.



British Saanen Female Goat.

the goat to kid say from September to November, it would be very beneficial, but so far this disadvantage has not been overcome. It might be possible by careful watch to mate the goat again soon after she has kidded, but if successful this would entail a severe strain upon the stamina of the animal, as she can give birth to from one to five kids at one time. A case in point is a goat which was born on 8th April, 1929, kidded for the first time on 5th April, 1931 and again on 25th February, 1932, giving birth in all to nine kids, but fortunately she was an exceptionally large and well developed animal. This goat "R 4 Didgemere Doggerel" *Q*Q*Q***Q*, owned and bred by Mrs. A. W. Abbey, holds the record for yield of milk at the Dairy Show, having given 16 lbs. at the 1932 Show. In this connection, it is well to point out that due to the fact we cannot get the goats to kid down just prior to the Dairy Show—the same as the breeders of cattle endeavour to do—we are unable to obtain the best yields at this exhibition; these invariably are given at the summer Shows.

Recording.—Goats are recorded under the same conditions as cattle and by the same Societies. It will be realised that recording a comparatively small number of goats is therefore fairly expensive, but keen members have availed themselves of the facilities offered by the Ministry of Agriculture & Fisheries and the various Recording Societies in order to obtain an official yield of milk. The British Goat Society annually offers a Medal for the goat obtaining the highest recorded yield, provided this is not less than 3,000 lbs., whilst goats which have been certified as yielding not less than 2,000 lbs. of milk during the recorded year are entitled to the prefix R2, those yielding not less than 3,000 lbs. R3—the numeral increasing by 1 for each 1,000 lbs. of milk. Since the adoption of this standard by the Society, the number of goats that have qualified up to the 1st October, 1933 is as follows:—

R5	...	...	...	1
R4	...	...	...	13
R3	...	...	...	81
R2	...	...	...	247

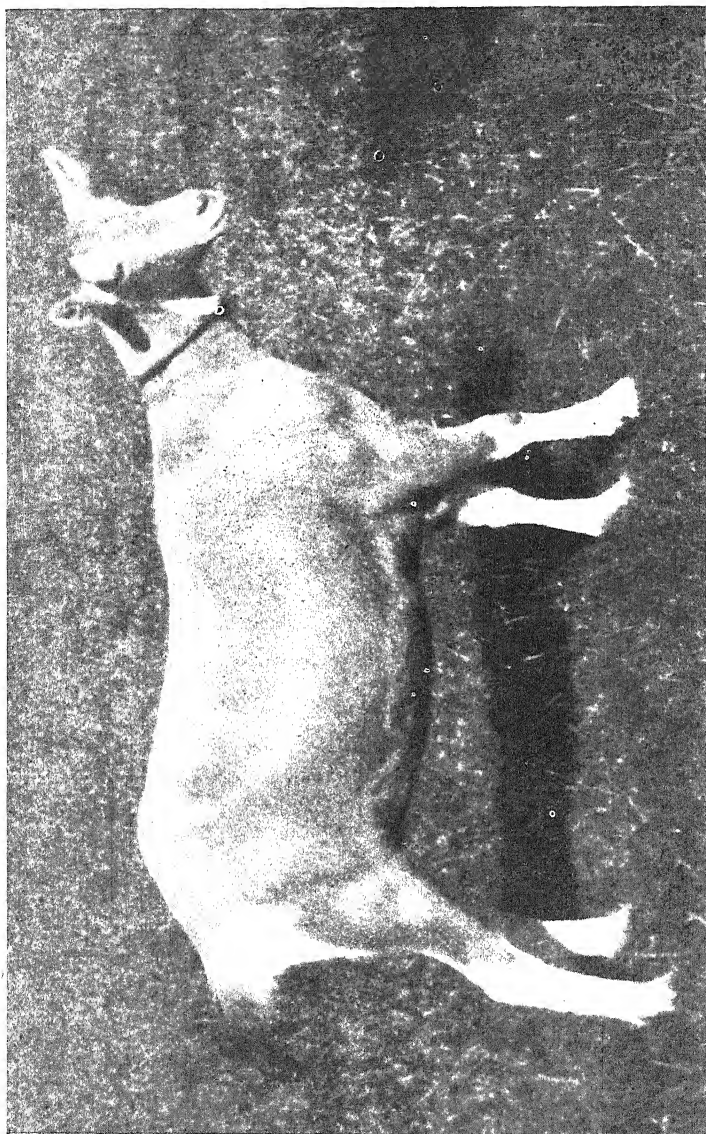
The goat which holds the record is "Ch. R5 Springfield Precocity" Q*Q*, owned by Mrs. R. W. Rotherford and bred by Miss C. Booth. She kidded on 14th August, 1929 and went right through the recorded year 1929-1930 giving a total yield of 5,050 lbs. 15 ozs. or an average of 13 lbs. 13 ozs. for the 365 days—a world's record.

The following figures are informative :—

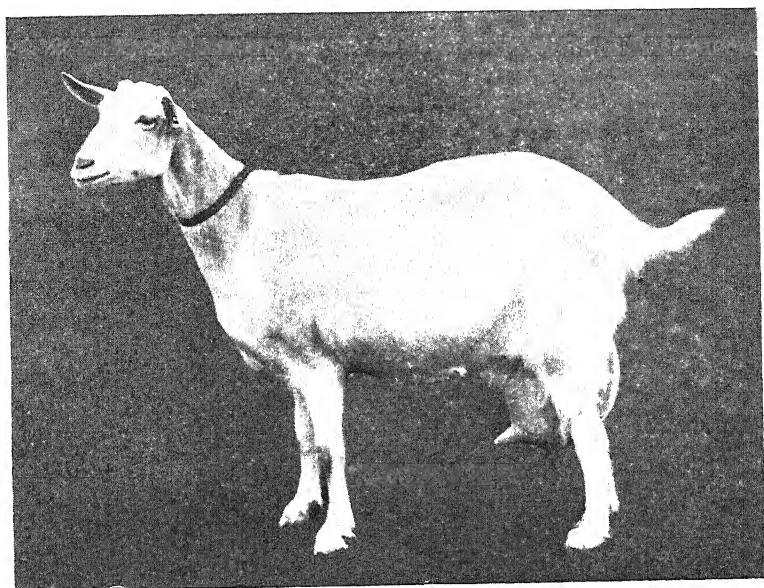
Recorded Year.	No. of goats recorded.	Average yield of goats recorded for full year.		Maximum yield during year.	
		lbs.	ozs.	lbs.	ozs.
1923-1924	101	1,654	14	4,125	0
1924-1925	121	1,728	3	3,551	12
1925-1926	121	1,828	4	4,236	4
1926-1927	132	1,839	13	4,464	0
1927-1928	146	1,877	4	4,343	1
1928-1929	139	1,956	9	4,066	8
1929-1930	158	2,010	0	5,050	15
1930-1931	141	1,837	5	4,140	14
1931-1932	123	1,929	4	4,795	0

Selection of Male.—As previously indicated, breeders have invariably bred for milk and in this connection have used males in whose pedigree there were a number of goats who had won prizes for yield of milk at shows. These females, if they obtain a minimum number of points are known as Star (*) or Q Star (Q*) milkers—the Q standing for quality, and only allotted when the milk has been tested for Butter Fat (a.m. & p.m.) and has not been less than 4% on both occasions. Several goats have proved exceptionally good sires, their progeny turning out excellent milkers. Pride of place in this connection must be given to Champion “†Prophet of Bashley” owned by Mrs. A. W. Abbey and bred by Miss E. M. Pope. 25 of his daughters qualified for the prefix R. Other outstanding examples with the number of “R” daughters are “†Didgemere Daniel” 10, “Ch. †Ridgeway Ranunculus” 6, “†Didgemere Duncan” 8, “†Didgemere Doctor” 10, “Gulden” (Imported goat) 6, “Ch. †Proud” 8, “†Dochfour Wilfrid” 6, “Herne Bay Thark” 7, “Broxbourne Gold” 10, “Ridgeway Rip Van Winkle” 6, “Ch. Schnapps” (Imported) 7, “†Edenstead Pluck” (the sire of “Ch. †Prophet of Bashley”) 5, “†Didgemere Angus” 9.

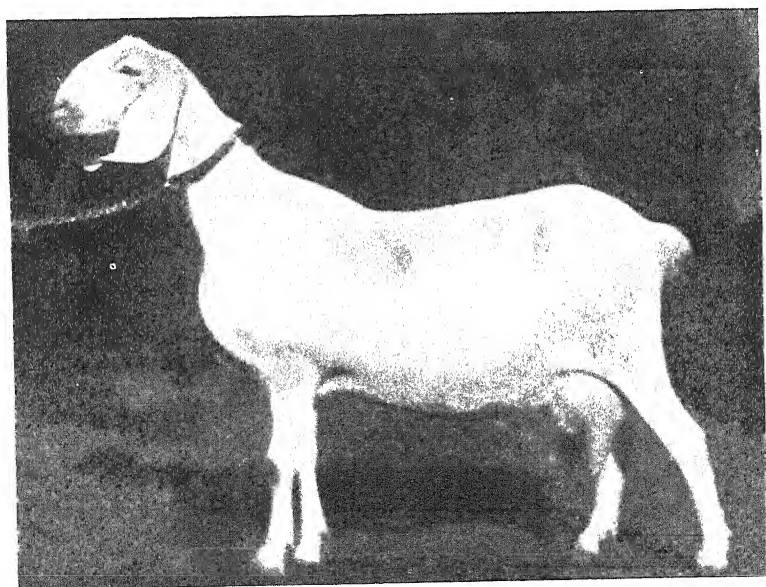
Breeds.—Two distinct types have been evolved—the “Swiss” and the “Anglo-Nubian.” The former are classified as Toggenburg—a variety established in the Toggenburg Canton of Switzerland and imported into this country—body colour mouse or fawn with white markings on face and legs; the Saanen, also established in Switzerland and imported, colour white; the British Alpine, body colour



Toggenburg Goatling.



British Female Goat.



Anglo-Nubian Female Goat.

black with white markings on face and legs ; the British Saanen, which can have a body colour of white, pale cream or very pale biscuit, but white goats are preferred ; the British Toggenburg, body colour can be anything from light drab to dark chocolate with white markings on face and legs as in the Toggenburg. All the above should have ears which are erect or pointing forward.

The Anglo-Nubian usually has a Roman nose and its ears are pendulous. It was produced in England by crossing the home-bred animal with goats which were imported from India and Egypt. The two pure Swiss breeds (Toggenburg and Saanen) have been helped from time to time by importations ; in the early days it was comparatively easy to import fresh blood, but Foot & Mouth Disease Regulations prohibited this, and in recent years it has been very difficult to obtain the necessary permit. The last importation took place in 1922 when 17 Toggenburgs and 29 Saanens were imported. Prior to that, a number of Swiss type goats were imported in 1904, but it is many years since any goats of Eastern type have been allowed into this country, therefore it is the more remarkable that the Anglo-Nubian goat retains its type so well.

Exportation.—Whilst it is necessary from time to time to import goats into this country in order to obtain fresh blood, I am of the opinion that for type, stamina and milk yields, we have the best stock in the world, and this has been recognised for some time past by breeders in other countries importing stock from us—a trade which could be largely increased if the charges for freight, etc., were not so high. It is generally recognised that a goat purchased for about fifteen guineas in this country will cost its importer double that amount by the time it reaches its destination. Goats have been exported to the following countries in recent years :—Brazil, Kenya Colony, South Africa, Italy, India, Japan, Ceylon, Chile, British West Indies, Irish Free State, Gold Coast, Canada, Jamaica, British Columbia and East Africa, whilst enquiries have been received from other countries such as the United States of America, but business has not been possible on account of quarantine restrictions.

Stud Goat Scheme.—In conjunction with the Ministry of Agriculture & Fisheries, the British Goat Society run a Scheme whereby approved stud goats are made available for the service of goats owned by cottagers, smallholders, etc., at a nominal fee. The Scheme has proved of very great benefit in improving the yields of milch goats owned by such goatkeepers. The stud goat must be a proved stock-getter, conform to certain conditions as to pedigree, and before acceptance each animal is inspected by an officer of the Society



British Toggenburg Female Goat.

who reports as to its suitability. Accepted goats are also visited by one of the Ministry's Small Live Stock Inspectors during the season. The Scheme has now been in force for several seasons and those who have made use of it testify to the improvement which has resulted both in the stamina and milk producing powers of the stock. This Scheme is one definitely for the small goatkeeper, and a cottager recently stated that before it came into operation his goats were yielding 3 pints per day, but as he has taken full advantage of the Scheme since its inception, he now has goats yielding 9 pints per day. It should be noted that owners of good stud goats have readily placed them at service in order to encourage and help the breeding of good milk yielding animals for the use of cottagers and smallholders.

(The electros used to illustrate this article have been loaned by the British Goat Society to whom the British Dairy Farmers' Association is indebted).

RECORDS OF TYPE, SIZE AND PRODUCTION OF REPRESENTATIVE ANIMALS AT THE LONDON DAIRY SHOW, 1933

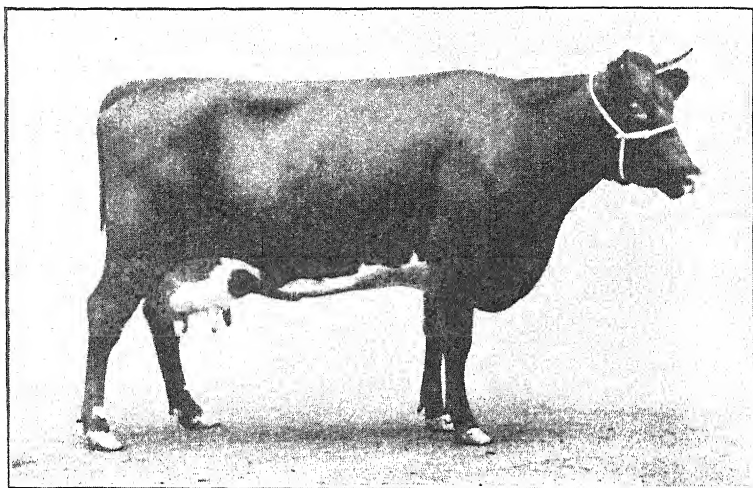
By

SIR J. Q. LAMB, M.P., S. BARTLETT, M.C., B.Sc. and W. F. JESSOP.

At the London Dairy Show, 1928, a set of records was collected comprising photographs, measurements and records of production of the first prizewinners in each of the mature cow classes. These records, together with the principal objects and methods of taking the photographs, measurements, etc., were published in this Journal, Vol. XLI., pp. 123 to 148. Subsequently the same procedure has been adopted at each London Dairy Show and the records published yearly.

The following pages show photographs, measurements and all available records of production of 18 animals of 11 different breeds.

In addition to the records published here the Association preserves the information in a rather more complete and permanent form in albums prepared each year. These albums contain two original photographs (right and left side) together with records of identification, breeding, production and size.



“KENTISH HONEY JEAN.” Catalogue number 5.

Exhibited in Class 1 (for pedigree Dairy Shorthorn Cows born on or previous to August 1st, 1928).

British Dairy Farmers' Association official photograph, taken on October 18th, 1933.

Born 28th February, 1927. Age when photographed, 6 years 8 months.

Prizes won at the London Dairy Show, 1933.—Second Inspection, Extra Inspection, First Milking Trial, Shorthorn Championship Prize of £50, and Reserve for Desborough Cup.

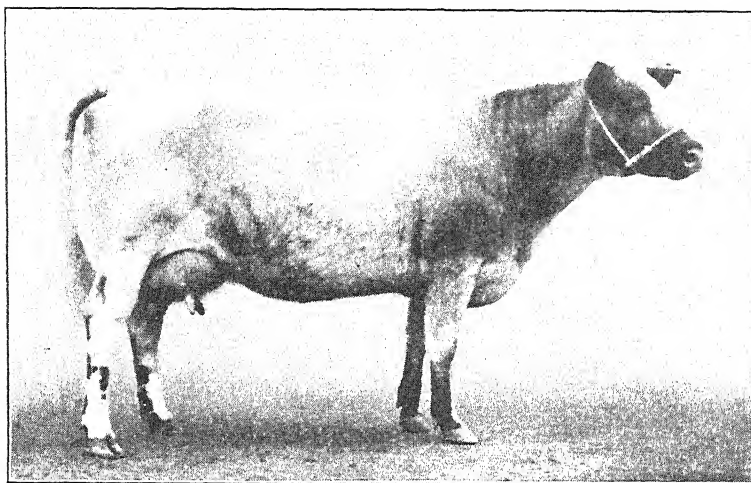
Owners and Breeders.—Messrs. J. W. Smith and Son.

Details of thirteen body measurements given on page 108.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNERS AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield. of Fat.
1	16 Jan., 1930 ...	12	288	81	lbs. 5,981	—	—	lbs
2	1 Feb., 1931 ...	10	378	56	14,507½	—	—	—
3	20 Apr., 1932 ...	7	347	76	19,314½	—	—	—
*4	24 June, 1933 ...	8	—	—	—	—	—	—

*Record incomplete for 4th lactation.



"BUDBROOKE LASS 2ND." Catalogue number 18.

Exhibited in Class 1 (for pedigree Dairy Shorthorn Cows born on or previous to August 1st, 1928).

British Dairy Farmers' Association official photograph, taken on October 18th, 1933.

Born 23rd July, 1927. Age when photographed, 6 years 3 months.

Prizes won at the London Dairy Show, 1933.—First Inspection, Third Milking Trial, Reserve Butter Test, and Reserve for Calvert Challenge Cup.

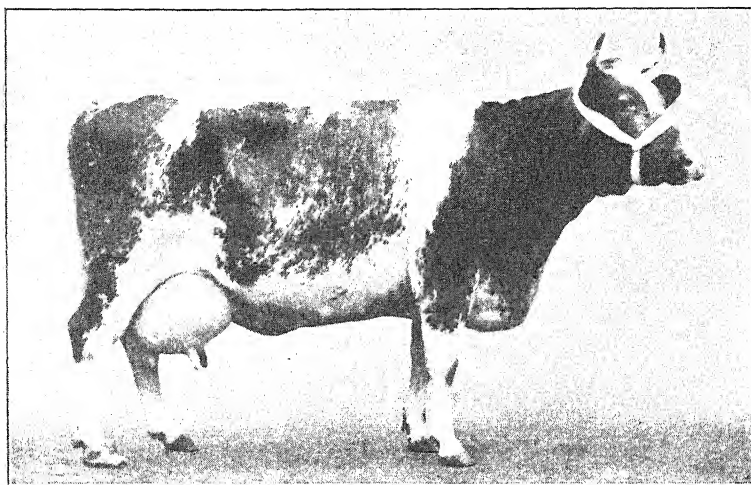
Owner.—J. Crowe, Esq. Breeder.—S. C. Cockburn, Esq.

Details of thirteen body measurements given on page 108.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield of Fat.
1	26 Sept., 1929 ...	*	315	*	lbs. 5,944 $\frac{3}{4}$	—	—	lbs. —
2	28 Oct., 1930 ...		284		8,198 $\frac{3}{4}$	—	—	—
3	22 Nov., 1931 ...		287		9,817 $\frac{3}{4}$	—	—	—
4	10 Nov., 1932 ...		311		9,772 $\frac{3}{4}$	—	—	—

*Information not available.



"GWERSYLLT DUCHESS 6TH." Catalogue number 61.

Exhibited in Class 4 (for non-pedigree Dairy Shorthorn Cows).

British Dairy Farmers' Association official photograph, taken on October 18th, 1933.

Born 18th November, 1928. Age when photographed, 4 years 11 months.

Prizes won at the London Dairy Show, 1933.—Third Inspection, First Milking Trial, and Reserve for Dairy Shorthorn Association's Extra Prize of £10.

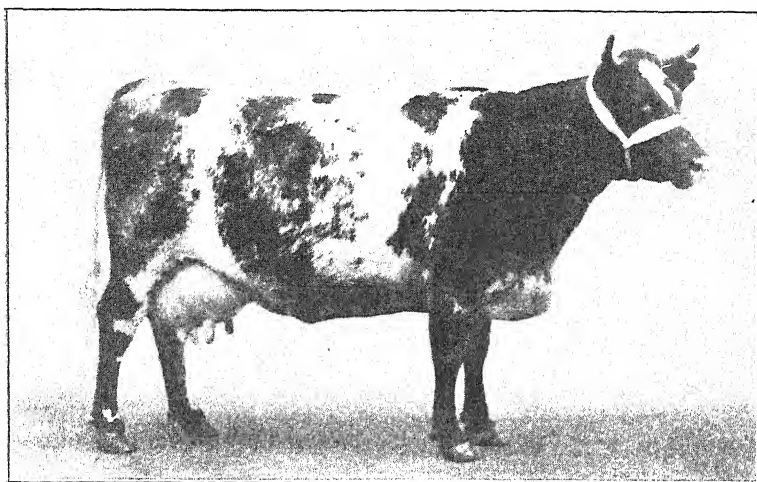
Owner and Breeder.—Capt. N. Milne Harrop.

Details of thirteen body measurements given on page 108.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield of Fat.
1	9 July, 1931 ...	4	343	88	lbs. 11,060	Not	tested.	lbs.
2	16 Sept., 1932 ...	4	279	71	13,815	—	do.	—
*3	5 Sept., 1933 ...	4	—	—	—	—	—	—

*Record incomplete for 3rd lactation.



"SNOWDROP 2ND." Catalogue number 68.

Exhibited in Class 4 (for non-pedigree Dairy Shorthorn Cows).

British Dairy Farmers' Association official photograph, taken on October 18th, 1933.

Born 23rd September, 1927. Age when photographed, 6 years 1 month.

Prizes won at the London Dairy Show, 1933.—First Inspection and Extra Inspection.

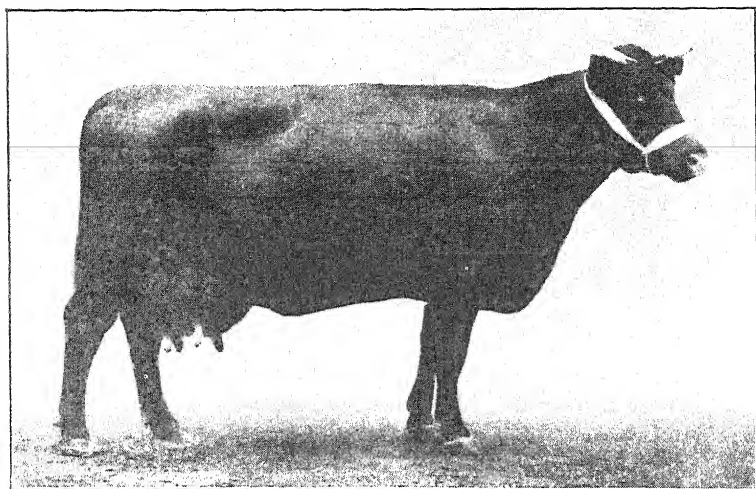
Owner, Sir Mark Collet., Bart. *Breeder*, J. Harrison, Jr.

Details of thirteen body measurements given on page 108.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield of Fat.
1	11 June, 1930 ...	—	—	—	lbs.	—	—	lbs.
2	12 June, 1931 ...	—	—	—	—	—	—	—
3	21 Aug., 1932 ...	—	313	4	13,305½	2	3.3	—
*4	3 Sept., 1933 ...	—	—	—	—	—	—	—

*Record incomplete for 4th lactation.



"BENDISH QUEEN 4TH," Catalogue number 83.

Exhibited in Class 6 (for Lincoln Red Shorthorn Cows).

British Dairy Farmers' Association official photograph, taken on October 18th, 1933.

Born 7th, March, 1927. Age when photographed 6 years 7 months.

Prizes won at the London Dairy Show, 1933.—First Inspection, Extra Inspection, First Milking Trial, and Fourth Butter Test.

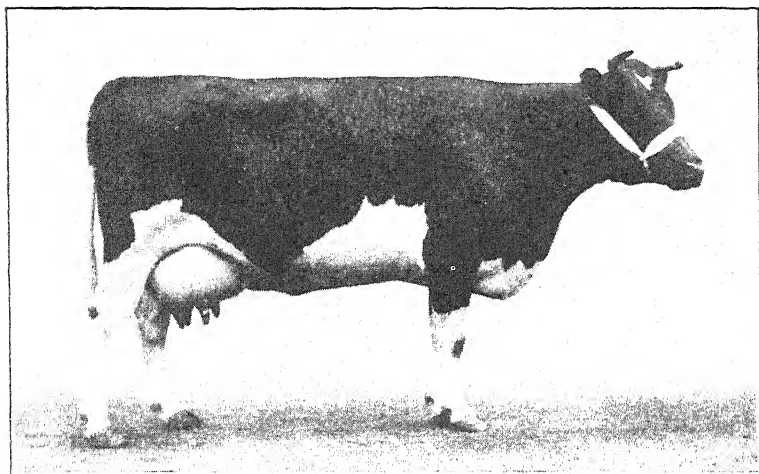
Owner.—F. Sainsbury, Esq. *Breeder.*—F. Russell Wood, Esq.

Details of thirteen body measurements given on page 108.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield of Fat.
1	17 May, 1930 ...	4	454	53	lbs. 13,654	—	—	lbs. —
2	10 Oct., 1931 ...	4	250	84	8,715	—	—	—
3	12 Sept., 1932 ...	4	317	63	10,549½	7	3.55	374.5
*4	1 Oct., 1933 ...	—	—	—	—	—	—	—

*Record incomplete for 4th lactation.



"LAVENHAM PRESENT 8TH." Catalogue number 103.

Exhibited in Class 8 (for British Friesian Cows born on or previous to August 1st, 1928).

British Dairy Farmers' Association official photograph, taken on October 18th, 1933.

Born 21st December, 1924. Age when photographed, 8 years 10 months.

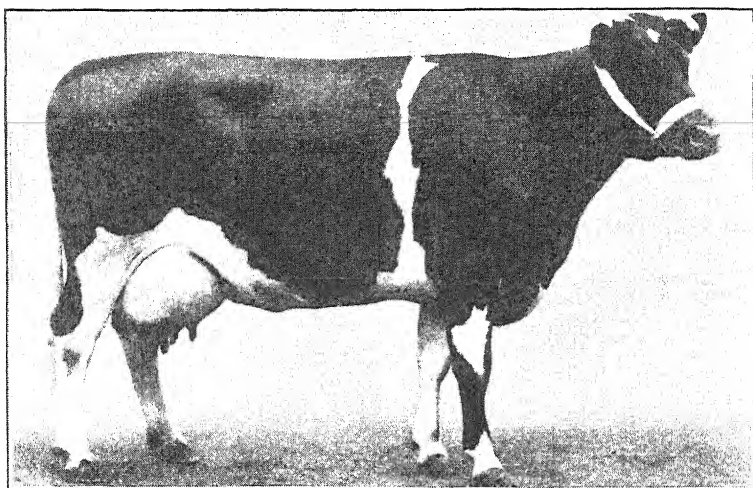
Prizes won at the London Dairy Show, 1933.—First Inspection and Extra Inspection. One of the group winning the Bledisloe Challenge Trophy.

Owners and Breeders.—Strutt and Parker (Farms), Ltd.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNERS AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield, of Fat.
1	11 Dec., 1927 ...	4	340	36	lbs. 7,071½	4	3.76	lbs. 265.9
2	25 Dec., 1928 ...	4	311	38	13,518	6	3.65	493.4
3	13 Dec., 1929 ...	4	309	44	13,219	6	3.52	465.3
4	5 Dec., 1930 ...	4	297	41	13,264	8	3.62	480.2
5	11 Nov., 1931 ...	4	298	42	14,528	5	3.40	494.0
6	20 Oct., 1932 ...	6	269	62	12,663	6	3.46	438.1
*7	22 Sept., 1933 ...	—	—	—	—	—	—	—

*Record incomplete for 7th lactation.



"LAVENHAM WALLEN 18TH." Catalogue number 104.

Exhibited in Class 8 (for British Friesian Cows born on or previous to August 1st, 1928).

British Dairy Farmers' Association official photograph, taken on October 18th, 1933.

Born 6th April, 1927. Age when photographed, 6 years 6 months.

Prizes won at the London Dairy Show, 1933.—Second Inspection, First Milking Trial, Second Butter Test, British Dairy Farmers' Association's Supreme Individual Championship Trophy, Barham Challenge Cup, Spencer Challenge Cup, and Shirley Challenge Cup. One of the group winning the Bledisloe Challenge Trophy.

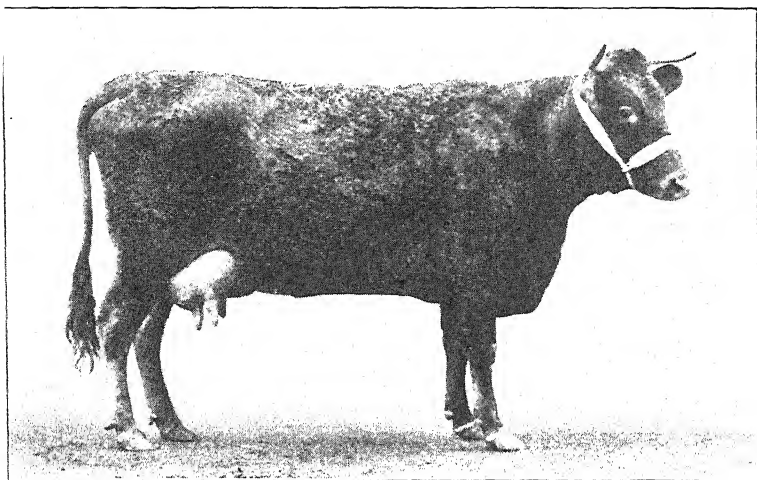
Owners and Breeders.—Strutt and Parker (Farms), Ltd.

Details of thirteen body measurements given on page 108.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNERS AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield of Fat.
1	7 Oct., 1929 ...	4	411	132	lbs. 10,177½	8	3.58	lbs. 364.3
2	7 Apr., 1931 ...	8	337	68	13,165½	5	3.07	404.2
3	24 May, 1932 ...	7	378	92	14,445½	6	3.14	453.6
*4	13 Sept., 1933 ...	4	—	—	—	—	—	—

*Record incomplete for 4th lactation.



"DARTINGTON VERA 10TH." Catalogue number 158.

Exhibited in Class 11 (for South Devon cows).

British Dairy Farmers' Association official photograph, taken on October 18th, 1933.

Born March, 1927. Age when photographed, 6 years 7 months.

Prizes won at the London Dairy Show, 1933.—First Inspection and Third Milking Trial.

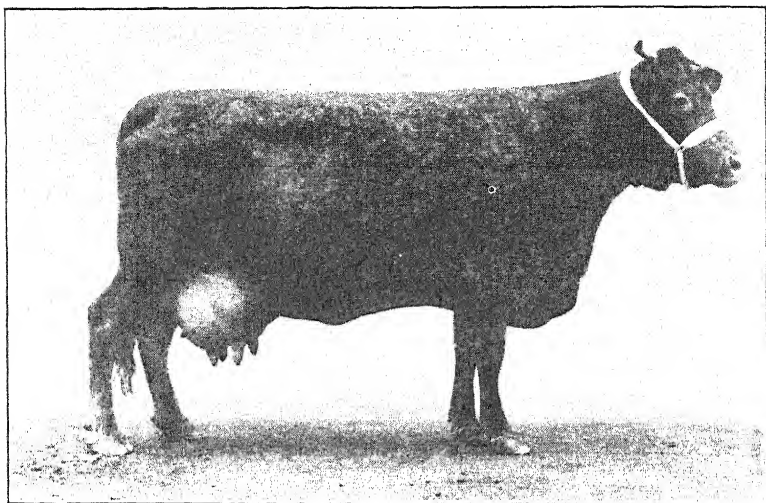
Owners.—Dartington Hall, Ltd. Breeder.—Mr. Wills.

Details of thirteen body measurements given on page 108.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield of Fat.
1	—	—	—	—	lbs.	—	—	lbs.
2	—	—	284	72	6,253½	No	regular	tests.
3	8 Nov., 1932 ...	4	251	61	8,116½	—	—	—
*4	21 Sept., 1933 ...	4	—	—	—	—	—	—

*Record incomplete for 4th lactation.



"DARTINGTON HALL MYRTLE." Catalogue number 156.

Exhibited in Class 11 (for South Devon Cows).

British Dairy Farmers' Association official photograph, taken on October 18th, 1933.

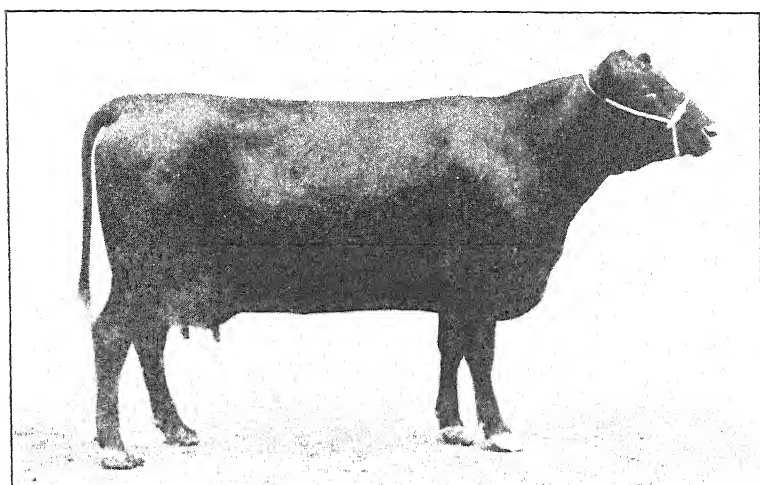
Born 28th January, 1926. Age when photographed, 7 years 9 months.

Prize won at the London Dairy Show, 1933.—First Milking Trial.

Owners and Breeders.—Dartington Hall, Ltd.

Details of thirteen body measurements given on page 108.

LACTATION MILK RECORDS.—No milk records received.



"WESTON PEGGY." Catalogue number 189.

Exhibited in Class 15 (for Red Poll Cows born on or previous to August 1st, 1928).

British Dairy Farmers' Association official photograph, taken on 18th October, 1933.

Born 17th March, 1928. Age when photographed, 5 years 7 months.

Prizes won at the London Dairy Show, 1933.—First Inspection, Extra Inspection, Second Milking Trial.

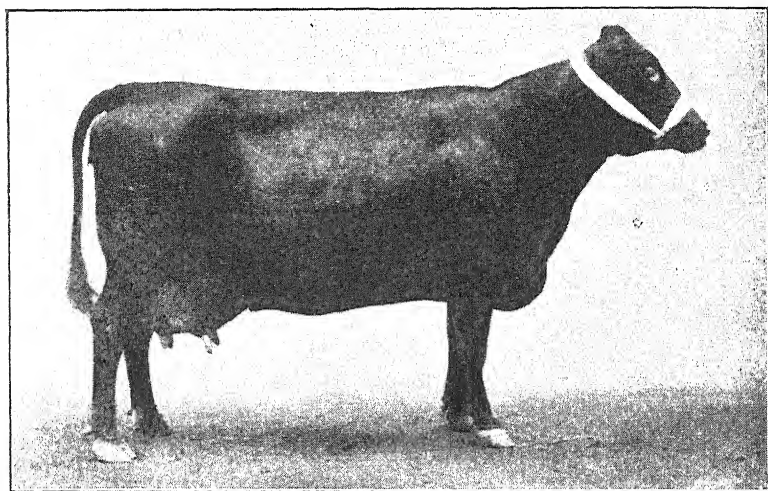
Owner.—C. H. Cearn, Esq. *Breeder.*—W. P. Bailey, Esq.

Details of thirteen body measurements given on page 108.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield of Fat.
1	29 Sept., 1931 ...	4	288	38	lbs. 7,262½	Not	tested.	lbs.
2	24 Aug., 1932 ...	4	291	71	9,204	—	do.	—
*3	25 Aug., 1933 ...	—	—	—	—	—	—	—

*Record incomplete for 3rd lactation.



“HOLTON RAINBOW 6TH.” Catalogue number 192.

Exhibited in Class 15 (for Red Poll Cows born on or previous to August 1st, 1928).

British Dairy Farmers' Association official photograph, taken on October 18th, 1933.

Born 17th August, 1926. Age when photographed, 7 years 2 months.

Prizes won at the London Dairy Show, 1933.—First Milking Trial, First Butter Test and Reserve for Thornton Challenge Cup.

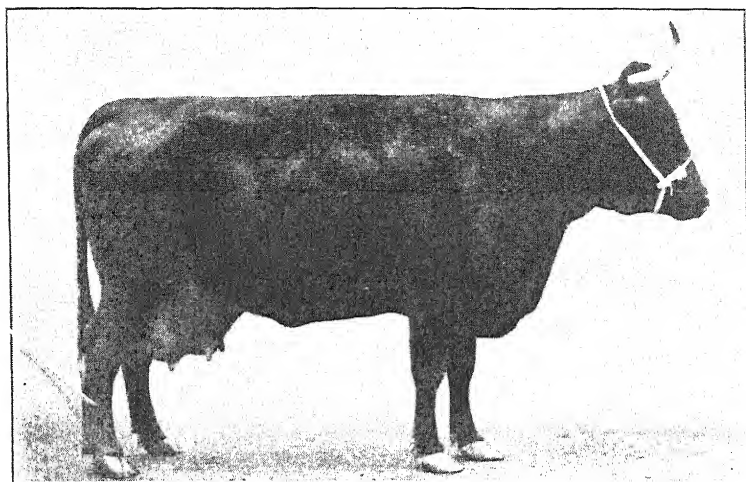
Owner.—Stuart Paul, Esq. *Breeder.*—Mrs. Bradman.

Details of thirteen body measurements given on page 108.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactatio yield. of Fat.
1	2 Oct., 1929 ...	13	339	16	lbs. 7,926 $\frac{1}{2}$	—	—	lbs.
2	5 Oct., 1930 ...	15	346	14	9,549	—	—	—
3	15 Oct., 1931 ...	15	271	45	9,491 $\frac{1}{2}$	—	—	—
4	10 Sept., 1932 ...	5	304	55	11,739 $\frac{3}{4}$	—	—	—
*5	9 Sept., 1933 ...	—	—	—	—	—	—	—

*Record incomplete for 5th lactation.



“BODELWA BEAUTY 7TH.” Catalogue number 213.

Exhibited in Class 20 (for Welsh Black Cows).

British Dairy Farmers' Association official photograph, taken on October 18th, 1933.

Born 6th August, 1926. Age when photographed, 7 years 2 months.

Prizes won at the London Dairy Show, 1933.—Second Inspection, First Milking Trial and £3 Prize in Butter Test.

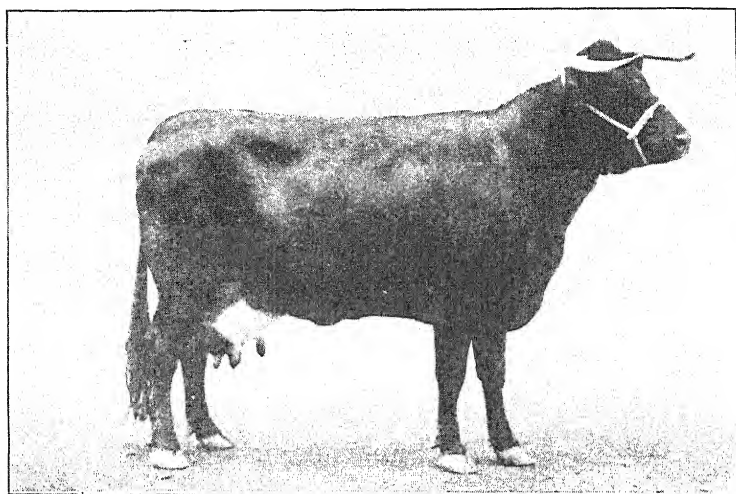
Owner.—Hon. Lady Shelley-Rolls. Breeder.—O. E. Hughes, Esq.

Details of thirteen body measurements given on page 108.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield of Fat.
1	12 Mar., 1929 ...	4	318	4	lbs. 6494½	—	—	—
2	1 Feb., 1930 ...	4	391	3	13,737½	—	—	—
3	6 Mar., 1931 ...	4	381	3	10,908	—	—	—
4	28 Mar., 1932 ...	4	515	19	14,218½	—	—	—
*5	17 Sept. 1933 ...	4	—	—	—	—	—	—

*Record incomplete for 5th lactation.



“TOPSY 4TH.” Catalogue number 214.

Exhibited in Class 20 (for Welsh Black Cows).

British Dairy Farmers' Association official photograph, taken on October 18th, 1933.

Born 6th November, 1922. Age when photographed, 10 years 11 months.

Prizes won at the London Dairy Show, 1933.—First Inspection, Extra Inspection, and Second Milking Trial.

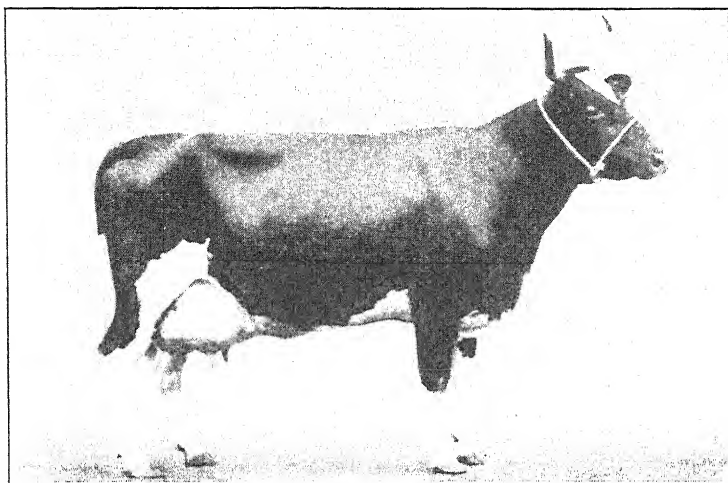
Owner and Breeder.—Hon Lady Shelley-Rolls.

Details of thirteen body measurements given on page 108.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield of Fat.
1	23 Aug., 1926 ...	39	324	10	lbs. 6,533½	—	—	lbs. —
2	31 Aug., 1927 ...	4	337	21	5,921½	—	—	—
3	27 Aug., 1928 ...	4	318	26	6,755½	—	—	—
4	10 Aug., 1929 ...	4	353	—	7,956½	—	—	—
5	2 Aug., 1930 ...	4	370	—	8,213	—	—	—
6	11 Aug., 1931 ...	4	361	—	8,329½	—	—	—
7	12 Aug., 1932 ...	4	368	—	8,616	—	—	—
*8	19 Aug., 1933 ...	—	—	—	—	—	—	—

*Record incomplete for 8th lactation.



“CORMISTON TOWERS BROWNIE.” Catalogue number 220.

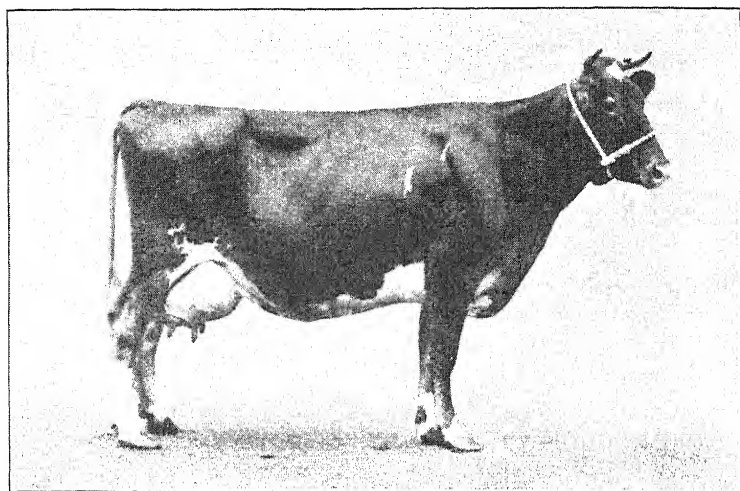
Exhibited in Class 21 (for Ayrshire Cows).

British Dairy Farmers' Association official photograph, taken on 18th October, 1933.

Born 8th March, 1927. Age when photographed, 6 years 7 months.

Prizes won at the London Dairy Show, 1933.—First Inspection, First Milking Trial, Second Butter Test, Rowallan Challenge Cup, Reserve for British Dairy Farmers' Association's Championship Trophy, Reserve for Spencer Challenge Cup, and Reserve for National Milk Challenge Cup.

LACTATION MILK RECORDS.—No milk records received.



"TREVANETH WALLFLOWER." Catalogue number 248.

Exhibited in Class 23 (for Guernsey Cows born on or previous to August 1st, 1928).

British Dairy Farmers' Association official photograph, taken on October 18th, 1933.

Born 4th June, 1927. Age when photographed, 6 years 4 months.

Prizes won at the London Dairy Show, 1933.—First Inspection, Extra Inspection and Reserve for Stagenhoe Challenge Cup.

Owner.—E. D. Fairweather, Esq. *Breeder.*—S. Bettens, Esq.

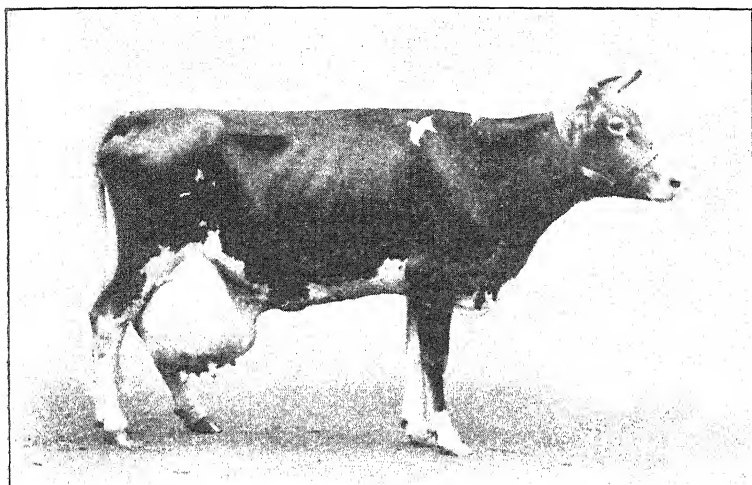
Details of thirteen body measurements given on page 108.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average percentage.	Lactation yield of Fat.
1	17 Sept., 1929 ...	40	247	59	lbs. 6,228½	—	†4.95	lbs. †308.3
2	29 Aug., 1930 ...	5	330	65	8,487½	—	†4.45	†377.7
3	3 Oct., 1931 ...	4	346	30	10,025½	—	†4.74	†503.6
4	17 Oct., 1932 ...	4	315	30	10,307½	—	†4.46	459.7
*5	1 Oct., 1933 ...	—	—	—	—	—	—	—

*Record incomplete for 5th lactation.

†Above Butter Fat Tests were made under the English Guernsey Cattle Society's Advanced Register conditions.



"ROSE OF L'ISLET." Catalogue number 244.

Exhibited in Class 23 (for Guernsey Cows born on or previous to August 1st, 1928).

British Dairy Farmers' Association official photograph, taken on October 18th, 1933.

Born 9th June, 1926. Age when photographed, 7 years 4 months.

Prize won at the London Dairy Show, 1933.—First Milking Trial.

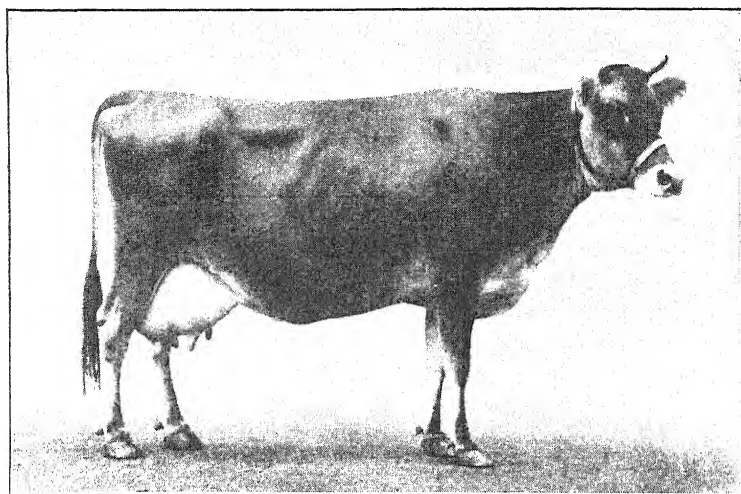
Owner.—Sir Louis Baron, Bart. Breeder.—J. T. Roberts, Esq.

Details of thirteen body measurements given on page 108.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield. of Fat.
1	4 Mar., 1929 ...	28	444	88	13,431½ lbs.	11	3.82	513.1
2	15 Sept., 1930 ...	9	270	60	10,138½	6	3.17	321.4
3	20 Aug., 1931 ...	5	355	24	12,990½	6	3.41	443.0
4	7 Sept., 1932 ...	12	290	73	11,698	6	2.82	329.9
*5	17 Sept., 1933 ...	—	—	—	—	—	—	—

*Record incomplete for 5th lactation.



“WOTTON PSAMEAD.” Catalogue number 273.

Exhibited in Class 26 (for Jersey Cows born on or previous to August 1st, 1928).

British Dairy Farmers' Association official photograph, taken on October 18th, 1933.

Born 5th June, 1926. Age when photographed, 7 years 4 months.

Prizes won at the London Dairy Show, 1933.—First Inspection, First Milking Trial and Reserve for Blythwood Challenge Bowl.

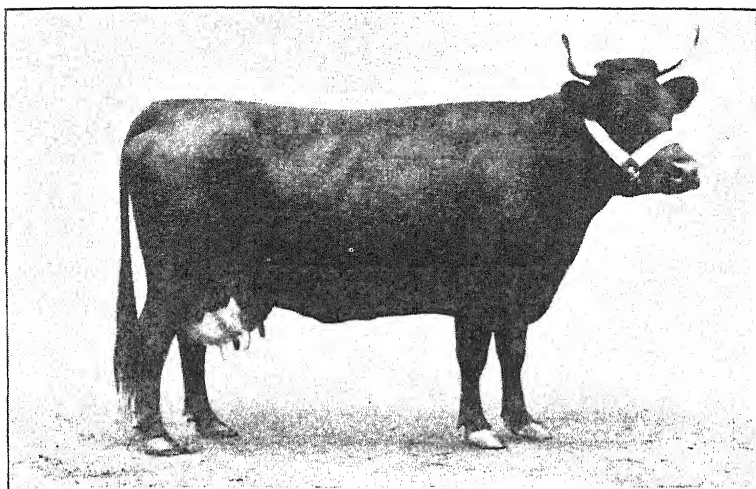
Owner and Breeder.—Mrs. Evelyn.

Details of thirteen body measurements given on page 108.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED
BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield of Fat
1	29 May, 1928 ...	4	305	77	lbs. 5,870	—	—	lbs. —
2	19 June, 1929 ...	4	261	58	7,529½	4	5.33	401.3
3	8 May, 1930 ...	5	607	418	15,828¼	11	5.03	796.2
*4	2 Mar., 1933 ...	4	—	—	—	—	—	—

*Record incomplete for 4th lactation.



"GRINSTEAD DUCHESS 1ST." Catalogue number 323.

Exhibited in Class 31 (for Dexter Cows).

British Dairy Farmers' Association official photograph, taken on October 18th, 1933.

Born 29th April, 1928. Age when photographed 5 years 6 months.

Prizes won at the London Dairy Show, 1933.—First Inspection, Second Milking Trials, £2 Prize in Butter Test and the Nutt Challenge Cup.

Owner and Breeder.—Lady Loder.

Details of thirteen body measurements given on page 108.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield of Fat.
1	22 Apr., 1930 ...	4	303	42	lbs. 3,866	5	3.81	lbs. 147.3
2	6 Apr., 1931 ...	4	303	95	4,187½	6	3.74	156.6
3	12 May, 1932 ...	4	281	117	5,318½	6	3.48	185.1
*4	16 June, 1933 ...	4	—	—	—	—	—	—

*Record incomplete for 4th lactation.

MEASUREMENTS OF FIRST PRIZE WINNERS, LONDON DAIRY SHOW, 1933.
TAKEN OCTOBER 18TH, 1933, BY S. BARTLETT.

Catalogue Number of Animal	...	5	18	61	68	83	103	104	156	158	189	192	213	214	220	244	248	273	323
First Prize Inspection or Milking Trials...	...	M.T.	Insp.	M.T.	Insp.	Insp. & M.T.	Insp.	M.T.	M.T.	Insp.	Insp.	M.T.	M.T.	Insp.	Insp. & M.T.	M.T.	Insp.	Insp. M.T.	Insp.
Name of Animal.		Kentish Honey Jean.	Bullbrooke Lass 2nd.	Duchess 6th.	Snowdrop 2nd.	Bendish Queen 4th.	Lavenham Present 8th.	Lavenham 18th.	Darlington Hall Myrtle.	Darlington Vera 10th.	Weston Perry.	Rainbow 6th.	Beauway 7th.	Topsy 4th.	Coronation Towers Browne.	Li Islet.	Trevelth Wallflower.	Watton Pasmad.	Duchess 1st.
Breed.		Pedigree Shorthorn.	Pedigree Shorthorn.	N.P. Shorthorn.	N.P. Shorthorn.	Lincoln Red.	British.	British.	South Devon.	South Devon.	Red Poll.	Red Poll.	Welsh Black.	Welsh Black.	Ayrshire.	Guernsey.	Guernsey.	Jersey.	Dexter.
Live Weight	...	lbs. 1,424	lbs. 1,246	lbs. 1,332	lbs. 1,462	lbs. 1,552	lbs. 1,470	lbs. 1,476	lbs. 1,569	lbs. 1,547	lbs. 1,536	lbs. 1,368	lbs. 1,354	lbs. 1,388	lbs. 1,272	lbs. 1,064	lbs. 1,012	lbs. 1,004	lbs. 680
(a) Length of Body	...	in. 58.6	in. 58.5	in. 59.8	in. 57.6	in. 60.1	in. 59.6	in. 61.2	in. 61.3	in. 60.3	in. 55.8	in. 55.8	in. 56.9	in. 57.9	in. 58.1	in. 56.5	in. 57.9	in. 56.1	in. 46.7
(b) Length of Hindquarters	...	19.3	19.1	20.1	19.7	19.0	19.9	20.4	20.3	20.3	19.1	19.5	19.5	19.7	18.6	19.2	20.1	18.7	15.5
(c) Height at Withers	...	51.7	51.8	53.3	50.8	53.7	53.8	54.1	54.5	53.3	49.8	51.9	50.7	51.2	53.0	51.0	51.7	47.0	40.3
(d) Height at Hooks	...	51.6	52.9	53.4	51.1	54.2	55.3	55.8	55.3	55.2	51.3	53.1	52.0	52.2	53.5	51.6	51.2	49.9	41.0
(e) Depth of Chest	...	29.3	28.5	30.2	29.8	29.8	30.5	30.6	31.4	30.7	28.6	30.0	28.9	28.9	28.3	27.2	28.4	26.9	23.9
(f) Width of Chest	...	17.1	16.6	20.8	18.4	18.4	17.7	16.1	19.2	17.7	17.2	18.2	19.6	18.9	15.9	15.0	13.3	13.9	13.4
(g) Width of Hooks	...	23.0	22.9	24.2	24.4	24.9	22.5	23.0	24.4	24.0	22.0	23.3	22.4	23.6	23.1	20.3	20.8	20.5	17.6
(h) Width of Thurls	...	20.8	20.0	20.9	21.3	21.4	21.2	21.9	20.2	20.3	18.2	20.6	20.6	19.7	20.0	18.2	18.7	16.6	14.9
(i) Girth of Barrel	...	94.7	90.3	94.6	98.0	97.8	97.2	90.3	99.8	88.7	91.6	94.2	91.0	85.4	92.0	80.7	89.8	88.2	74.2
(j) Girth behind Shoulder	...	78.3	75.1	80.5	78.6	78.5	79.3	78.3	83.9	79.1	75.8	78.2	80.0	75.8	73.5	71.0	71.4	68.6	60.3
(m) Girth of Foreleg	...	6.8	6.8	7.3	6.7	7.5	7.1	7.6	7.4	7.4	6.6	7.1	7.4	7.3	7.0	6.5	6.9	6.2	5.8
(n) Length of Head	...	19.9	19.2	19.9	18.8	21.0	21.0	20.8	20.8	21.0	18.5	21.1	20.0	19.2	19.8	19.7	20.1	17.9	16.4
(p) Width of Head	...	8.7	8.7	9.0	9.0	8.9	9.3	8.2	9.0	9.3	8.4	9.0	9.0	8.0	8.9	8.1	8.9	8.5	7.7

Measurements.

INTER-COUNTY CLEAN MILK COMPETITION, 1932-33

By S. J. CANNAN.

THE report for 1932-33 follows a year (1931-32) during which the Inter-County Competition was suspended because of insufficient entries. This was disappointing, but there were several contributing causes, the chief of which was that 1931-32 was the first year in which the Ministry of Agriculture and Fisheries stipulated that clean milk competitions should be confined to novices. As a result, several County Education Authorities were unable to obtain the minimum entry of 20 herds to enable them to take part in the competition.

The Association, being anxious to avoid a similar eventuality in future years, decided that the conditions governing the scheme should be amended to provide that milk producers participating in organised advisory schemes approved by the Ministry of Agriculture should also be included in the total entry.

The award of marks in respect of such producers is, however, assessed on a different basis from that used in the case of entrants in the clean milk competition, only the results of the bacteriological examinations and the regularity of sampling being taken into account. A maximum of 5 marks is allowed for each sample which, judged in accordance with the scale of marks used in connection with county clean milk competitions, would have received 75% or more of the marks available under each of the following heads:—bacterial count, B. coli and keeping quality. The standards represented by these percentages are as follows:—

Bacterial Count not exceeding 17,000 per c.c.	(224 marks)
B. coli absent in 1/10 c.c.	(150 „)
Keeping Quality not less than 72 hours ...	(225 „).

A further amendment to the scheme, which would have taken effect in 1931-32, relates to the basis on which marks are awarded in respect of county clean milk competitions. Until 1930-31, it was necessary for a competitor in a county scheme to obtain at least 75% of the marks available for inspection, bacterial count, etc., in order to be eligible for marks under any of these heads in the Inter-County Competition; but, as certificates of merit in connection with the county schemes are awarded to competitors who obtain

66 2/3% of the total marks available, the Association decided that the qualifying standard in the Inter-County Competition should be reduced to this figure. A bonus of 5 marks is, however, awarded in respect of each competitor who obtains 75% or more of the total marks available in the county scheme.

The number of entries received for the 1932-33 competition was again disappointing, only Berkshire, Warwickshire, Essex and Middlesex being concerned and, having regard to the incentive which the scheme should provide, not only for the county staffs, but also for individual producers in the counties, it is a matter for regret that the County Education Authorities are content to allow the issue to be contested by so few of their number. Very little, if any, extra work is involved on the part of the county staffs as the activities in respect of which marks are awarded form part of their normal duties and the returns required by the Association may easily be prepared from the records which the County Committees require. It is hard to understand, therefore, why this effort of the Association to encourage the provision of instruction in hygienic milk production should meet with so little support.

With regard to the 1932-33 competition, the educational work in Berkshire was so well carried out that the county secured first place with a margin of more than 2,000 marks. A very high standard of efficiency was revealed amongst the producers who took part in the clean milk competition and the advisory scheme and the employees who participated in the milkers' competitions, very few marks being lost to the county under any of these heads.

This is the third successive occasion on which Berkshire have won the Stapleton Cup—no other county has been successful in more than one year—and the county educational staff are to be congratulated on an unique achievement, to which their zeal has contributed in no small degree.

Warwickshire secured second place in the competition with a total of 3,299.9 marks. In the county clean milk competition there were no less than 70 entrants and some idea of the amount of work involved in running the scheme may be gathered from the fact that each farm has to be inspected on two occasions and three "surprise" samples of milk must be taken from each competitor.

In Essex, the third county in the competition, the outstanding feature was the administration of the County Register of Accredited Milk Producers, with which 61 milk producers were concerned. It is interesting to note, also, that 9 new licences for the production of "designated" milk were taken out by farmers in the county during the year ended 30th June, 1933. A full statement of marks awarded to the three leading counties is shown on page 112.

The prizes were presented at the London Dairy Show by the Right Honourable Mr. Walter Elliot, M.C., M.P., Minister of Agriculture and Fisheries. Mr. Elliot referred to the considerable amount of valuable work which was carried out by the County Educational staffs, as indicated by the returns made in connection with the Inter-County Competition and expressed his pleasure in being able to associate himself with this effort on the part of the British Dairy Farmers' Association to foster interest in the improvement of the milk supply.

The following is a full list of awards :—

Winning County : Berkshire, Stapleton Cup.

Leading Competitor in Berkshire Clean Milk Competition:

The Exors of Mr. J. H. Hamilton, £50.

Leading Competitor in Warwickshire Clean Milk Competition : A. W. Windridge, £25.

Leading Competitor in Essex Clean Milk Competition :

Mrs. L. F. Risdell, £10.

Head cowman of each of the above competitors, Mr. T. Lewis, Mr. G. N. Casterton and Mr. J. Brown, £10, £8 and £6 respectively.

SUMMARY OF MARKS AWARDED.

		Berkshire.	Warwickshire.	Essex.
COUNTY CLEAN MILK COMPETITIONS AND ADVISORY SCHEMES.				
For each herd in excess of 30	5 points	205	315	295
For each herd entered in the clean milk competition for the first time	10 ..	250	700	250
For each 1% of herds in the clean milk competition gaining not less than 66½% of possible marks for inspection	5 ..	500	371.5	375
Ditto for Bacterial Count	5 ..	440	107	160.5
Ditto for absence of <i>B. coli</i>	5 ..	460	250	196.5
Ditto for keeping quality	5 ..	480	264.5	339.5
Ditto for absence of sediment	2 ..	200	151.4	150
For each herd gaining not less than 75% of the total marks in the clean milk competition	5 ..	110	75	45
For each sample examined in connection with advisory schemes which conformed with the required standard max.	5 ..	1,403	389	987.5
CLEAN MILK DEMONSTRATIONS.				
On the relationship of the total number of attendances at approved clean milk demonstrations to the number of dairy farmers in the administrative area. For each 1 per cent.	5 ..	500	9	—
MILKERS' COMPETITIONS.				
For each competitor gaining not less than 75 per cent. of possible marks	2 ..	214	130	—
For each 1 per cent. of competitors gaining not less than 75 per cent. of possible marks	3 ..	292	295.5	—
LICENSED PRODUCERS.				
For each licensed producer of Certified milk	5 ..	35	25	35
For each licensed producer of Grade "A" (T.T.) milk	5 ..	135	60	95
For each licensed producer of Grade "A" milk	3 ..	—	117	126
For each producer taking out a licence for Graded milk, for the first time, during the year of the competition	20 ..	80	40	180
Total		5,304	3,299.9	3,235

ANNUAL REPORT OF THE CONSULTING CHEMIST

By T. J. DRAKELEY, D.Sc., Ph.D., F.I.C., F.I.R.I., F.C.S.

During the year 1933, the number of samples submitted by the members for examination and investigation was considerably in excess of the average number for the past few years.

The principal increase was due to the larger number of samples of milk for routine analysis and for bacteriological examination.

It is becoming more general practice to check the efficiency of bottle-washing and pasteurising plants by bacteriological tests on specimens taken at regular intervals during the normal operation of the various plants.

No doubt owing to the extreme drought which various parts of the country endured during the summer, the question of a water supply became a matter of urgent importance to many farmers, and samples of water from new wells and sources were submitted for examination. In almost every case, the quality of the water was exceptionally good for both drinking and dairying purposes. In all probability this was to be ascribed to the almost complete absence of surface drainage. Whilst, therefore, the water from the new sources was then highly satisfactory, it is felt necessary to give a warning that with more normal rainfall some of the new wells may receive most of their supply of water from surface drainage and may thus be so contaminated as to constitute a serious danger.

Feeding stuffs, manures, soils, cheeses, creams, starters, and other dairy products have been examined during the year, but the results of the analyses and investigations call for no special comment in this report.

THE DAIRY SHOW OF 1933

By SIDNEY EDWARDS.

The fifty-fifth Dairy Show was held on October 17th, 18th, 19th and 20th, and will be remembered as the Show at which thrice milking became a condition of entry in the Cattle Section.

A class for thrice milked cows was first introduced at the Dairy Show of 1923, when seven animals were entered, five of which put in an appearance. At the Dairy Show of 1926, exhibitors in all classes could choose whether their animals were milked twice or thrice daily, and out of an entry of 420 cattle, 161 were entered as thrice milkers. Since that date the numbers milked thrice daily have gradually increased and in the last few years far outnumbered those milked twice daily; at the Show of 1932 77% were thrice milked. In the interest of the animals and the officials concerned, the Council decided to make thrice milking compulsory and the change helped considerably towards the smooth running, so essential to success, and proved a boon to the officials concerned.

The general arrangement was similar to that of 1932. Cattle and Goats were housed in the Gilbey Hall. The Cattle judging rings were used for Milkers' Contests and the Young Farmers' Clubs' Cow judging contests, which have become a popular feature of the Show.

Positions were reserved in the Main Hall for the Butter Making competitions, Scone baking, the Milk Buffet, and Junket Making competitions.

The exhibits of Dairy Produce, Honey Bottled Fruit, Bacon and Hams were staged in the Barford Hall, where they can be securely locked up during the night.

The Poultry and Pigeons occupied their accustomed position in the Gallery.

The remaining space on the Ground Floor and Galleries was occupied by Dairy and Poultry Machinery and Appliances, and the many new inventions connected with the operations of Dairying and Poultry Keeping.

The Minister of Agriculture, Mr. Walter Elliot, visited the Show on the opening day and presented the Stapleton Challenge Cup to the winner of the Inter-County Clean Milk Competitions. The

Cup was received by Miss Matthews, the Dairy Instructress for the County of Berkshire, making the third win for that County in successive years ; Berkshire is the only County that has won the Cup on more than one occasion.

In spite of the depression in Agriculture and Industry, the attendance of the general public showed an increase of 3,675 persons, which is the surest indication of the increasing popularity of the Exhibition.

The Milking Trials and Butter Tests were carried out on Sunday and Monday, the 15th and 16th October. At one time it appeared that all records in the Milking Trials were going to be broken, when late on Sunday it transpired that the British Friesian cow Lavenham Wallen 18th, the property of Messrs. Strutt & Parker (Farms), Ltd., had given a total yield of 99.30 lbs. of milk for the day. At the completion of the Milking Trials this great cow gave an average yield of 98.80 lbs. with close on 4% of butter fat, and gained 213.22 points.

The record is still retained by the Friesian cow "Oakham Dainty," which in 1932 gained 215.30 points.

CATTLE.

Judging commenced at 9 a.m. on Tuesday in all departments and was completed in good time.

In the Cattle Classes an outbreak of Foot and Mouth Disease in Hertfordshire, Cambridge and Essex accounted for many absentees. In spite of that 202 cows arrived at the Agricultural Hall ; only 9 less than in 1932.

The Pedigree Shorthorns were few in numbers, but some excellent cows were paraded in Classes 1 and 2. In the Heifer Class 17 came before the Judges who found a little difficulty in dealing with so large a class in the small ring placed at their disposal. Non-Pedigree Shorthorns had a number of absentees, 4 cows parading out of an entry of 10, and 3 out of 9 entries in the Heifer Class. The leaders in both classes were very good animals and shown in splendid form.

In the class for Lincoln Red Shorthorn cows, it is regrettable that three of the cows entered came within the Foot and Mouth area. Of the remaining entries four came before the Judge, and were not up to the standard of some former years. In the Heifer Class, five of the eight entries were paraded ; Messrs. John Evens & Son took first and second prizes with home-bred exhibits.

In the Senior Cow Class British Friesians made a display of strong cows with good milk vessels. Two half-sisters competed for pride of place, shown by Messrs. Strutt & Parker ; the first

position was gained by "Lavenham Present 8th," closely followed by her herd companion "Lavenham Wallen 18th," the cow that later on was awarded the Barham, Spencer and Shirley Challenge Cups, finally winning the Supreme Individual Championship Challenge Trophy.

A number of absentees reduced the Young Cow Class to six animals, some of which may be record breakers in course of time. The Milking Trials show that the winner by inspection, "Glyndebourne Disley 2nd," could also fill the milk pail, having given an average yield in the Trials of 78.20 lbs., close on eight gallons a day.

The Heifer Class was very uniform, with good udders and the Milking Trial figures show the yields good also. Mr. W. Turner's "Hawthorn Nippy" gave an average of 6 gallons of milk daily during the Trials.

South Devons were well represented, seven parading in the Mature Cow Class, among them Mr. G. Wills' famous cow "Milkmaid 14th," a frequent visitor to the Show; at fourteen years of age, she is wonderfully well preserved, but could not get higher than second place, a seven-year-old cow exhibited by Dartington Hall, Ltd., taking the place "Milkmaid 14th" occupied on her former visits.

In the Young Cow Class nine animals of good type and quality faced the judge. The winner also took the extra inspection prize, with "Milkmaid 14th" as reserve. The Heifer Class was weak, but those present were good specimens of the breed.

The Devon Cow Class was cancelled through lack of entries.

Red Polls.—Doubtless the finest collection that has been seen at the Dairy Show. The first prize winners in each class were outstanding specimens. The winner in the Senior Class also brought first honours to her owner Mr. C. H. Cearn in the Young Cow Class a year ago. The same owner won first place in the Young Cow Class with "Ashmoor Briony," a cow that also took first prize in the Milking Trials, and was awarded the maximum points for inspection when paraded for the Supreme Individual Championship.

The heifers were an exceedingly good class, a new exhibitor, The Hon. Clive Pearson, sent a pair that took first and second place. An examination of the Milking Trial figures reveal that Mr. Stuart Paul's heifer "Kirton Kathy" gained 118 points, and gave a milk yield of 53.70 lbs., a very good performance for a heifer.

Welsh Blacks, after an absence of some years through lack of entries, had an entry of six, and were unfortunate that one of them did not calve in time to be sent to the Show. The five that came

before the Judge were good examples of the breed. Lady Shelley Roll's exhibits, taking first and second place, were shown in excellent condition. The remainder were smaller and lacked condition.

Ayrshire breeders with an entry of twenty-seven animals had many absentees. In the cow class eight were forward, the leader, an outstanding animal also won first prize in the milking trials giving a yield of 87.50 lbs. with well over four per cent. of butter fat. The others were good dairy cows. In the opinion of the ringside the five heifers paraded were better as a class than were the cows.

The three classes for Guernseys attracted twenty-nine entries ; several entries from the Foot and Mouth area were unable to come forward. Those present were good representatives of this popular breed and a few did well in the Milking Trials.

The Jersey classes were well filled with animals of good dairy type and excellent udders, the young cows were a grand lot of cattle.

Dexters made a very creditable exhibit.

The Blue Albion and Kerry classes failed to attract entries.

BULLS (Progeny of)

The progeny of twenty-one Bulls were entered for the Awards based on progeny performance in the Milking Trials. Eight breeds were represented.

BLDISLOE CHALLENGE TROPHY.

The award of "The Bledisloe Challenge Trophy" by Inspection and Performance in the Milking Trials proved a great attraction on Wednesday afternoon, when seven teams of six animals appeared before the judge. Shorthorns again won the maximum of 500 points by Inspection. The Friesian team taking second position with 490 points. Jerseys with a very neat team held the third position with 480 points, the margin of points then became wider. Ayrshires only gaining 440 points with the Red Polls close up at 435 points ; the margin again widened by 35 points bringing the South Devons into sixth place with 400 points, the Guernseys following at 390 points.

The addition of the Milking Trial points to those awarded by the Inspection judge, resulted in the Trophy being awarded to the British Friesian team. The Reserve position going to the Shorthorn team.

BLDISLOE CUP POINTS.

<i>Breed.</i>	<i>Milking.</i>	<i>Inspection.</i>	<i>Totals.</i>	<i>Award.</i>
Shorthorns ...	896.26	500	1,396.26	Res.
B. Friesians ...	1,056.25	490	1,546.25	1st
South Devons ...	676.71	400	1,076.71	
Red Polls ...	696.66	435	1,131.66	
Ayrshires ...	904.43	440	1,344.43	
Guernseys ...	719.41	390	1,109.41	
Jerseys ...	750.52	480	1,230.52	

A comparison of the points with those gained last year reveal that British Friesians, Jerseys and Guernseys have improved on those of 1932, while Shorthorns, South Devons, Red Polls and Ayrshires gained a lesser number of total points.

The Trophy was presented by Lord Daresbury to Mr. G. M. Strutt as the representative of the British Friesian Cattle Society.

THE SUPREME INDIVIDUAL CHALLENGE TROPHY.

A new departure in connection with the award of the above Trophy was an Inspection Parade. The Breed Societies could select two animals from their respective breeds, the best animal in the Parade to receive the maximum of 125 points, the remaining animals to receive points according to the judge's opinion.

Thirteen animals appeared in the ring and the parade was almost as great an attraction as the parade of teams on the previous day. The maximum points were awarded to Mr. C. H. Cearn's "Ashmoor Briony" a Red Poll cow, followed by a Shorthorn, then a Jersey, and in fourth place, the animal that proved to be the Champion "Lavenham Wallen 18th," a British Friesian cow. The Ayrshire cow "Cormiston Towers Brownie," sixth in the Inspection Parade, gained the Reserve position.

The Supreme Trophy was presented to Mr. G. M. Strutt by The Lord Mayor of London, who was accompanied by the Lady Mayoress. The Lord Mayor also presented the Champion Cups given by the Corporation of the City of London to the maker of the best exhibit of Cheddar Cheese, Messrs. Osborne Bros., of Wincanton, and to the maker of the best exhibit of Butter in Classes 102 to 109, Mrs. E. B. Beer, Totnes.

GOATS.

Goats, with an entry of 115, an increase of one over last year, were an attraction to the public. There were many magnificent goats present. The British Alpines were a great feature, also a large class of British Saanen, among them "Mostyn Marigold," a marvellous goat that has been two years in-milk and has given a milk yield of 4,935 lbs. in 365 days.

CHEESE.

Entries of Cheese were fewer, attributed in part to the drought. It is pleasing to record that two thirds of the entry were purchased by London buyers, who now appreciate the value of Cheese made in the farm house.

With the advent of the Milk Marketing Board and the Scheme relating to the sale of milk, it is feared that many of the farm house cheese makers will place their milk in the liquid milk market, unless some assistance is forthcoming for them. It would be a great

calamity were the knowledge and skill, inherited and acquired, of the farm makers lost to the Cheese making industry. It is hoped that some means may be devised to enable them to continue their usual methods of milk disposal where the byproducts from the dairy can be utilized to the fullest advantage.

The class for 6 Stilton Cheeses, open only to Dairy Farmers, was cancelled owing to lack of entries. That for 12 Cheeses where factors could compete got 16 entries of exceptional quality. The Cheddars and Cheddar Truckles were a fine exhibit and considering the difficulties of the past season reflect great credit on the makers, and were also a credit to the Dairy Show. The general average quality was much higher than in some former years and there were fewer objectionable taints. The class for 2 cheeses brought 53 entries. First and second prizes were won by Scottish makers.

The Longkeeping Cheese made before June 30th, 1933, were of very high quality; first prize again going to Scotland.

The class for 8 cheeses had 51 entries and were well up to the standard of previous years; the prize lots were not so definitely outstanding, with very few really inferior cheese in the class. There was room for improvement in the finish of a few lots. The winning exhibit was also awarded the City of London Champion Cup for the best exhibit of Cheddar Cheese. The premier honour going to the West of England. The exhibits of 4 Cheeses, open to pupils who had attended County Travelling Cheese Schools during 1932 and 1933 were reported as being extremely poor, badly tainted and badly finished.

The class for 2 Cheddar Cheeses produced in the British Empire (Overseas), excluding the Irish Free State, attracted 18 entries from New Zealand, 7 from Australia and 2 from South Africa, a total entry of 27 and an increase of 7 entries from last year.

In addition to the medals offered by the Association, Lord Bledisloe, The Governor General of New Zealand, has presented two Challenge Trophies value 50 guineas. One is to be awarded to the best exhibit of Cheddar Cheese in the class and the other will be awarded to the Provincial Area of New Zealand exhibiting the best cheese.

The judge reports that the average quality was very fair, with a few outstanding lots. The Gold Medal and both Challenge Cups were awarded to an exceptionally fine exhibit of New Zealand cheese. The Silver Medal to an Australian exhibit and Bronze Medal also to New Zealand cheese.

In the class for 8 Cheshire Cheeses a number of lots lacked quality and flavour, with competition keen among the prize-winning lots.

Coloured Cheeses, not less than 40 lbs. each, brought 25 entries. The first prize lot stood alone, far above the average. The general quality was not up to the usual standard.

Uncoloured Cheeses with an entry of 14 had several exhibits of outstanding merit, and the general quality was good.

Cheshire Longkeeping Cheese, with 12 entries, were a little advanced in flavour; in a few outstanding lots, the quality, considering the season, does the makers credit.

Small Cheshire, 4 Cheeses, open to pupils who have attended County Travelling Cheese Schools during 1932 or 1933, to be made at home from 8 to 10 lbs. each, were of excellent quality.

The judges could not commend the exhibits in the class for makers who had not previously won a prize at the London Dairy Show. The quality was below the average and the finish could be better.

Entries from a factory dealing with a maximum of 500 gallons of milk daily, numbered 8 but only 4 lots were exhibited. Scotch Cheddars received first prize, Cheshire makers taking 2nd and 3rd prizes and the 4th prize was awarded to a Somerset exhibit.

For the first time a class was allotted to Ayrshire Dunlops, 4 Cheeses from 40 to 60 lbs. each, and brought 8 entries. There was very little to pick and choose in the first three lots; they were well finished and reflect credit on the makers.

Leicester, 2 Cheeses had a small entry of 6, and were very good, well up to the average of former years.

Lancashire Cheese made after July 31st, were in the opinion of the judge, among the finest in the world, of excellent flavour, full of body and of the colour that pleases the eye of a person shopping.

Lancashire Longkeepers made before 31st July with 25 entries were reported on as very disappointing; some were ready for cutting and very few would keep well into 1934, owing to the long spell of hot weather.

Derby, 4 uncoloured Cheese were a very small entry of mixed quality, and the flavour was not too good.

Double and Single Glosters were very good. The first prize winners in both classes were of excellent quality.

Of the 12 entries of Caerphilly Cheese only one lot could be termed "superior." The prize lots were of exceptional merit and true to type.

The classes for Wensleydale and Small Holder Pressed Cheese, Longkeeping, were cancelled owing to lack of entries.

The Small Holder class Quick Ripening had an entry of 4. One lot was absent and the first prize lot was the only exhibit of merit.

The Inter County Class was interesting and gave satisfaction. The Challenge Shield and first prize were awarded to the Gloucestershire exhibit.

Sweet Cream Cheese ; this was a good class with 17 entries ; many exhibitors do not read the rules carefully, as several good exhibits were acid ; the moulding and finish was very good.

Unripened Soft Cheese was a good class, with finish and appearance much better than 2 years ago. Two exhibits showed traces of black mould and in some cases more attention to cleanliness should be observed.

The prizes for collections of produce open to Women's Institutes were won by Institutes in Gloucestershire, Cornwall and Rutland respectively.

BACON AND HAMS.

The class for Rolled Bacon with rind on, was cancelled through lack of entries ; that for Rolled Bacon without rind had a small entry of 4.

Classes provided for Smoked and Pale Dried Bacon had no Support.

The Bacon Pigs were judged on the same basis as those of 1932. Standards were laid down as to weight, length for weight, thickness of back fat, and thickness of streak. The 4 classes attracted 25 entries ; of those 6 lots were absent. The killing, dressing and curing was undertaken by Messrs C. & T. Harris (Calne), Ltd.

Five breeders competed for the Whitley Cup and it is unfortunate that many of the pigs sent forward were below the minimum weight laid down. The sides from those pigs were too light and very unsuitable as they have thin streaks. The first prize and the Whitley Cup, were awarded to an exhibit of the Large White Breed, the sides shown being a great improvement on earlier entries, displaying greater length with more lean in the backs ; the latter virtue was off-set somewhat by a correspondingly thin streak.

Second prize was secured by the single entry of the Welsh Breed, which was only a point behind the winning exhibit.

The class provided for 2 pedigree pigs secured 7 entries, 4 of which were sent forward, all were of the Large White Breed. A noticeable feature was the variation in sides of the same breed, making it obvious that in addition to breed, a carefully selected strain and scientific feeding are points of outstanding importance.

The class for First Cross pigs had 8 entries. First prize and the Bledisloe Cup were awarded to a Large White and Middle White cross that showed a fair streak, the second prize went to a Large White and Essex cross of good length, but not lean enough ; third place was secured by a cross of Large White and Wessex Saddleback pigs.

PARTICULARS OF BACON PIG

Exhibitor's Name.	Catalogue Number.	No of Pigs.	Breed.	Average Age.		Average Dead Weight.		Live Weight.	Dead Weight.	Percentage Loss Live Weight to Dead Weight.		Bacon Weight.		Percentage Loss Live Weight to Bacon Weight.	
				Mths.	Days.	lbs.	lbs.			lbs.	lbs.	lbs.	lbs.		
CLASS 92.—Three Hogs and Three Gilt—pure-bred.															
Earl of Radnor	897	6	Large White	6	0	138.1	1097	837	23.70	626	42.93				
J. Pierpont Morgan	899	6	Large White	6	12	144.5	1132	867	23.41	661	41.60				
Dinam Estate Co.... ..	900	6	Welsh	6	12	143.1	1125	859	23.64	634	43.65				
A. Lewis	901	6	Large White	6	13	137.8	1075	827	23.08	602	44.00				
H. R. Davidson	902	6	Large White	5	27	144.5	1176	868	26.19	639	45.66				
CLASS 93.—One Hog and one Gilt—pure-bred.															
Earl of Radnor	903	2	Large White	6	12	163.5	425	327	23.05	246	42.12				
H. R. Davidson	905	2	Large White	5	29	137.0	371	274	26.14	199	46.35				
J. Pierpont Morgan	906	2	Large White	6	13	157.5	404	315	22.03	239	40.84				
H. Neaverson	908	2	Large White	6	0	154.5	387	309	20.16	230	40.57				
CLASS 94.—One Hog and one Gilt—first-cross.															
A. E. Law	910	2	Large White X Middle White	6	7	145.0	378	200	23.28	220	41.70				
Hertfordshire Institute of Agriculture	911	2	Large White X Essex	6	13	150.5	393	301	23.41	227	42.24				
Dinam Estate Co.	912	2	Large White X Welsh	6	10	163.5	415	327	21.20	245	40.98				
H. R. Davidson	913	2	Wessex Saddleback X Large White	6	1	146.5	393	293	25.45	217	44.78				
H. N. Brooking	914	2	Large White X Long White Lop Eared	6	11	142.5	372	285	23.39	206	44.63				
H. Neaverson	915	2	Large White X Wessex Saddleback	6	5	152.5	394	305	22.50	227	45.38				
H. H. Pickford	916	2	Large White X Large Black	6	4	142.0	376	284	24.46	214	43.08				
A. E. Law	917	2	Large White X Middle White	6	7	140.5	359	281	21.73	214	40.39				
CLASS 95.—Recorded.															
T. L. Ward... ..	919	4	Large White X Large Black	5	21	155.2	811	621	23.43	463	42.91				
Hertfordshire Institute of Agriculture	920	4	Large White X Wessex	6	0	142.5	747	570	23.70	423	43.37				
T. L. Ward... ..	922	4	Large White X Large Black	9		165.0	864	660	23.61	489	43.40				

CLASSES, DAIRY SHOW, 1933.

Catalogue Number.	Thinness of Back Fat.		Thickness of Streak.		Length for Weight.	Proportion of Cuts.	Reduction of Fat from Shoulder to Gammon.	Proportion of Lean to Fat on Cut Side.	Shape of Gammon.	Quality (firmness) of Fat.	Fineness of Bone.	Thinness of Rind.	Deduct for "Seedy cut" up to	Total.	Fecundity.		Age for weight.	Carcass Quality.	Total.	Award											
	15 Pts.	10 Pts.	10 Pts.	10 Pts.											5 Pts.	20 Pts.					5 Pts.	15 Pts.	5 Pts.	5 Pts.	10 Pts.	100 Pts.	50 Pts.	50 Pts.	100 Pts.	100 Pts.	300 Pts.
897	12	8	8	8	5	15	3	11	4	4	—	78	—	—	—	—	—	3rd													
899	8	8	8	6	4	12	3	11	4	5	—	69	—	—	—	—	—														
900	12	7	9	8	4	14	4	12	5	4	—	79	—	—	—	—	—	2nd													
901	11	7	8	6	5	15	3	10	4	4	—	73	—	—	—	—	—														
902	10	7	10	8	4	14	4	13	5	5	—	80	—	—	—	—	—	*1st													
903	12	9	7	7	4	13	4	14	3	3	—	76	—	—	—	—	—	3rd													
905	11	5	8	10	5	12	4	12	4	4	—	75	—	—	—	—	—														
906	12	8	9	8	4	15	4	13	5	3	—	81	—	—	—	—	—	†1st													
908	9	8	8	9	4	15	4	12	5	3	—	77	—	—	—	—	—	2nd													
910	5	8	7	9	4	14	4	12	5	3	—	71	—	—	—	—	—														
911	11	7	8	7	4	18	4	14	3	3	—	79	—	—	—	—	—	2nd													
912	8	7	8	7	3	14	4	12	4	4	—	71	—	—	—	—	—														
913	9	8	7	8	4	17	5	11	4	3	—	76	—	—	—	—	—														
914	10	8	9	7	4	14	4	12	5	3	—	76	—	—	—	—	—														
915	12	8	9	8	5	14	4	10	5	3	—	78	—	—	—	—	—	3rd													
916	8	8	6	7	3	12	3	14	5	4	—	70	—	—	—	—	—														
917	7	9	10	9	4	16	5	14	5	3	—	82	—	—	—	—	—	†1st													
919	11	10	9	8	3	16	5	12	4	5	—	83	40	50	100	83	273	\$1st													
920	8	7	9	7	4	14	4	11	4	3	—	71	50	44	75	71	240	1st													
922	12	7	10	8	5	15	5	12	3	3	—	80	40	44	80	80	244	1st													

*Whitley Cup.

†Beale Cup.

‡Bledisloe Cup.

§Harris Cup and Pig Recording Cup.

The class for Bacon Pigs—Recorded, was not given the support of 1932, when it had 11 entries. Of the 5 lots entered, 3 only were sent for competition and each lot gained a first class award. An added attraction to breeders is the "Pig Recording" Challenge cup, presented by Mr. William Davidson.

The pigs awarded the first place and the Challenge Cup were of the Large White—Large Black cross, gaining 273 points out of a possible 300. The proportion of lean to fat was excellent, but the streaks could be better. The Harris Cup for the four best sides of Wiltshire Bacon in classes 92, 93, 94 and 95, was awarded to sides of this entry.

Pigs from the same breeder, of the same cross, were Reserve for the Davidson Cup. The Reserve for the Harris Cup going to the winning exhibit of First Cross Bacon Pigs in Class 94.

In the Colonial Bacon section the entries were all of South African origin. These sides showed excellent streak, but were too fat in the back for to-day's requirements.

Hams were a moderate entry. The exhibits in the classes for Pale Dried were of good flavour and colour, that for Smoked Hams showed considerable variation as to the ideal colour. The Selling Class comprised a variety of types.

BUTTER.

The 2 lbs. Butter Classes were a moderate entry, of average merit; the prize lots were good but many samples lacked flavour and keeping qualities. The class for butter made from Goats milk was cancelled through lack of support. The winning exhibit of Ornamental Butter was an outstanding piece of work, and was greatly admired by visitors to the show. Ornamental Butter for table use was arranged in a very artistic manner.

The Commercial Classes, 111 to 115 could be described as Irish Butters, as the entries were all from that country, and of good average quality. Many exhibits lost points through the use of brackish salt and in other cases the packing left much to be desired.

Butter produced in the British Empire (Overseas) was a strong entry, having 41 entries in the Salted Class and 39 in the Unsalted Class. The butter was of a very high order, above the average quality, and in excellent condition. South Australia captured the Gold Medal for Unsalted Butter and the Gold Medal for Salted Butter went to Queensland.

CREAM.

A small entry of Clotted Cream, of good flavour was present; the judge of the class suggests that a little less cream be put in the vessels, so that the "crust" will be intact when the cover is removed.

Cream, other than clotted, was also of good flavour, several exhibits in the class were far too thick. The cream should pour freely.

BOTTLED FRUITS, VEGETABLES AND JAMS.

The number of entries in this section constitute a record, having reached a total of 119 against 111 in 1929. The exhibits of Bottled Fruit were of a high standard; Jams were not as good as might have been expected. The exhibits from Women's Institutes were greatly improved.

HONEY AND WAX.

An exceptionally fine lot of Honey was staged of great density. The National Mark Classes were well supported with honey of excellent quality. The Granulated Class was not up to the usual standard, but the Sections were a remarkable lot and nearly all deserved prizes. Comb Honey was splendid, and the Beeswax Class very good. There was no entry of Honey produced overseas.

JUNKET MAKING COMPETITIONS.

The competitors in this section were an increase of 10 from last year. The competitions are popular with visitors. The junkets made were extremely good and by no means easy to judge. In Section C, two first prizes were awarded as two of the competitors were placed equal first.

In the Champion Junket-Making Competition, the method of work was very good. The winner and reserve number producing excellent junkets. The *Daily Mail* Challenge Bowl and the Silver Medal of the Association were won by Mrs. J. Mogford, South Molton.

BUTTER MAKING CONTESTS.

The contests were held in the usual position in the Main Hall. In the Novice Sections the style of work was good, a few competitors may have been slow. The competition among those who had entered in Class 156 was keen, a large number did excellent work, the margin of difference being very slight.

Twenty-two competitors churned in the contest for the Championship. The Desborough Challenge Cup and the Association's Silver Medal were awarded to Miss S. M. Stephens, Lostwithiel. Second prize and the Bronze Medal were won by Miss S. E. Jones, of Crickhowell.

MILKERS' CONTEST.

The Milkers' Contests are well patronized. The class for men and women of 18 years and over brought 38 entries and 34 actually competed. Very few points were lost on the actual process of milking, but a number of competitors did not strip efficiently, while other lost points on the sediment test. Fifteen boys and girls under

18 years of age appeared before the Judges; contrary to expectations, it was noticed that the girls were generally too boisterous when preparing the cow.

Eleven herdsmen competed in the class provided for them. Naturally they milked efficiently, with a high standard of cleanliness, though in some cases the stripping could be improved upon.

In the Championship Class, 8 took part and the H. G. Howard Cup, the Gold Medal of the Association, and first prizes were carried off by Miss M. Phelps, Tenby. The second prize and silver medal were awarded to Mr. J. H. Brown, Woodseaves, Stafford.

COW JUDGING CONTEST.

Seven teams competed from Colleges, Farm Institutes and County Council Classes for the B.D.F.A. Challenge Cup which is held for one year by the College or Institute sending the winning team.

The team entered by the Devon County Agricultural Committee won the Challenge Cup, and the Cornwall County Council team was placed in the second position.

The competitions organized by the National Federation of Young Farmers' Clubs were most successful, no less than 27 teams competing in the annual Dairy Cow Judging Competition. The Silver Challenge Cup presented by the *Farmer and Stock-Breeder and Agricultural Gazette*, was won by a Northern team from Durham.

There is no doubt that competitions of this kind will do much to improve the class of cattle kept by the next generation of farmers. It is not only the actual competitors who will benefit, but hundreds of others who become interested.

The Federation's Annual Poultry Judging Competition was held on the closing day of the Show, when teams from seven Counties took part. The first place and the Challenge Cup again were gained by a Durham team.

NEW INVENTIONS.

There were many new inventions relating to the Dairy and Poultry Industry, and it was disappointing to find "no entry" in the class provided for a Light Portable Weighing Machine for use on a Pig Farm. Breeders and feeders of bacon pigs realize that a weighing machine has become a necessity.

The Council are again indebted to Messrs. L. G. Howkins & Co. for the loan of an electric washer and drier, which so efficiently deals with the 1,200 cloths and towels in daily use by the herdsmen at milking times.

Their thanks are also due to Messrs. Frigidaire, Limited, for their silent and smooth running Direct Expansion Milk Cooler which did what was required exceedingly well, and constituted a most useful addition to the Gilbey Hall equipment.

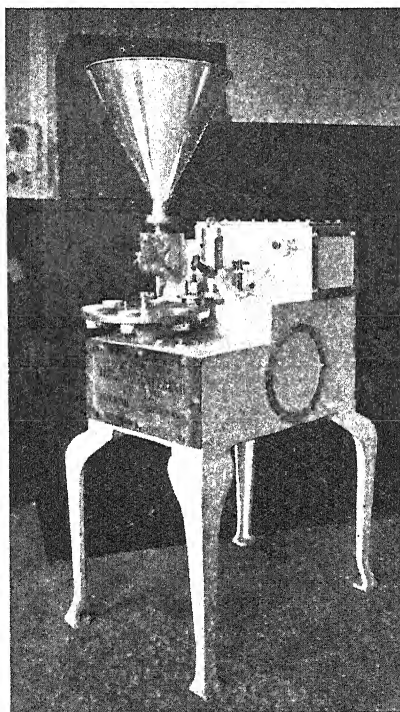
NEW AND IMPROVED INVENTIONS, DAIRY SHOW, 1933

By the JUDGES.

DAIRY APPLIANCES.

The entries for the New and Improved Invention Classes were slightly in excess of those of last year, but there was nothing very outstanding to remark upon as a new invention, if originality was the basis of comparison with other years.

Taken in detail reference should be made to the following entries, each of which showed sufficient merit to call for special notice by the Judges.

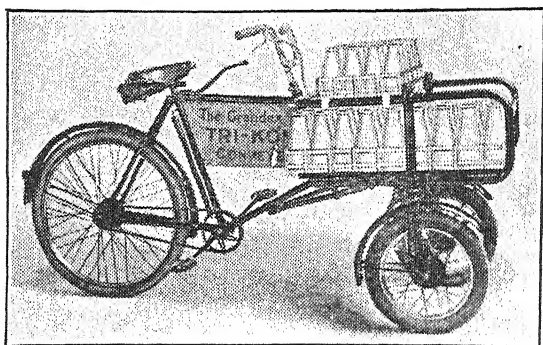


CREAM FILLING MACHINE.

The Cream Filling Machine entered by the U.D. Engineering Co., Ltd., was considered by the Judges of such merit that they awarded the Exhibitors of this machine the Association's Gold Medal.

The operation of the filler was positive and a complete discharge of the cylinder into the cups is a very important feature, as it insures accurate filling as to quantity whatever the thickness of the cream might be. The change of one size carton to another was quick and effective, but the cartons have to be hand-fed to the machine. The speed of the machine is 1,500 per hour, and is driven by a $\frac{1}{4}$ H.P. electric motor. The filling is controlled by automatic valves and an automatic capping head works in conjunction with the valves. The construction is robust.

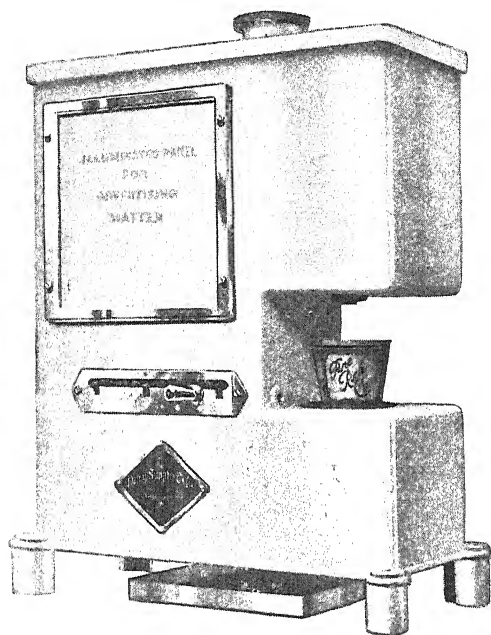
A Silver Medal was awarded to the Grandex Cycle Company for their "Tri-Kon" Milk Conveyor, which seemed simple and efficient for small dairies where the quantity of bottled milk does not warrant a more expensive medium.



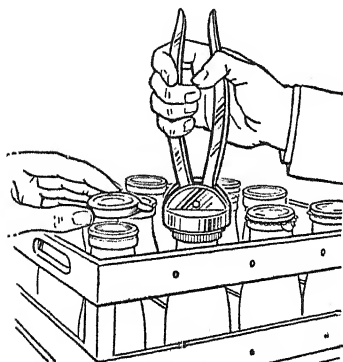
GRANDEX "TRI-KON" MILK CONVEYOR.

The Dairy Supply Co., Ltd., exhibited a Cream Pot Filler (hand-power) for counter work which was very efficient and of sufficient merit to receive the award of a Silver Medal. Where there is a good counter trade in cream, this machine would be of great service, and it incorporates a very ingenious illuminated advertising panel which lights up when the machine is operated, forming a very valuable advertising medium.

The "Autolex" (Patent) Hand Capper, exhibited by Mr. H. C. Stern, was awarded a Bronze Medal. The Capper was efficient and simple to manipulate, and should be of great service in small dairies where the quantity of milk bottled does not warrant a more expensive medium.



CREAM POT FILLER.



"AUTOLEX" HAND CAPPER.

The Electric Sterilizing Outfit, exhibited by Messrs. Barford & Perkins gave particularly good results, so far as sterilizing was concerned, and in this respect can be considered quite satisfactory, but the cost of the electricity consumed is in excess of the cost for doing the same work with steam, where steam is available. In some dairies, however, it might be more convenient to use electricity than to instal a steam raising boiler.

Messrs. Sutherland, Thompson & Co. entered a small Steam Sterilizing Outfit, but this was only suitable for small dairies, and the Judges decided that the boiler shell was too light in construction, though this fault could be altered, but the cost would be increased in consequence.

The Gascoigne (Reading), Ltd. Auto-Recorder Milker is a departure from the standard machine usually sold by this firm and has several points of interest that might make it suitable for some farms, but it could not be generally adopted. The milking of the cows appears to be reasonably efficient and there is a novel mechanism for supplying cake to the cows in measured quantities.

The outstanding feature of the machine is undoubtedly the simple method of automatically recording each cow's milk which is good, except that as the machine will not strip every cow, an arbitrary average quantity has to be added to each cow's milk to provide for the strippings. The timing device which tends to reduce the time the teat cups remain on the cow is useful, but is dependent on the operator's judgment. The milk weighing device is accurate so long as the machine has been properly assembled.

For obtaining milk samples the glass containers have to be discarded and the ordinary Gascoigne pails used—this is a disadvantage where tests have to be taken at least once a week.

There is quite a considerable increase in the number of fittings, &c., to be kept clean and sterile as compared with an ordinary milking machine, but if this is properly done, satisfactory bacteriological results can be obtained.

A Midget Milk Cooling Plant with cold room was exhibited by the U.D. Engineering Co., Ltd., to cool 22 gallons per hour to 40 deg. F. without water. This machine is automatic and does quite satisfactory work but can scarcely be classed as a new invention, as there are several other machines already on the market doing the same thing.

Mechanically it is very sound and in view of the absence of cooling water it might be of great use on some farms, especially where open air milk is operating, but the cost of cooling each gallon is higher than where water is used.

POULTRY APPLIANCES.

There was an increased entry this year, providing quite an interesting collection. There are so many possibilities of improving the various appliances used in the poultry industry to-day, that we think each year will see many new ideas put into effect.

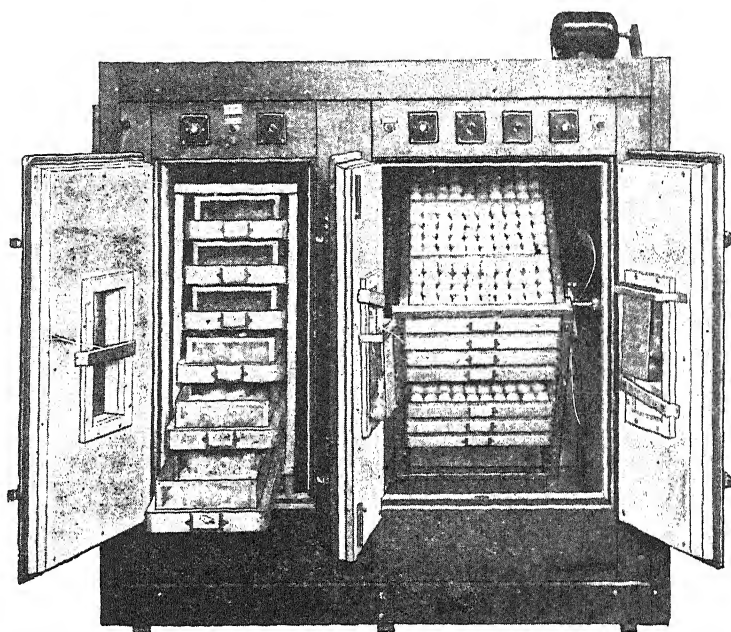
The Bingham Patent Poultry Plucker was the first exhibit to claim our attention and this is an improvement on the previous model. The speed of the plucking plates is about four times their previous revolution and about 400 plucks per second are given to the bird; the feathers and stubs are gripped by the bare steel plates thus giving a much finer pluck and finish to the bird. The feathers are drawn by suction into a sack attached to the back of the machine. It is claimed that after very little practice an operator can attain a speed of from 30 to 35 birds per hour, cleanly plucked and stubbed. We were satisfied by our inspection that it does its work well. Awarded Very High Commendation.

The Dairy Outfit Co., Ltd., exhibited an excellent Parcels Post Egg Box, fitted with cushion fittings, at a very moderate price. It is well adapted for the purpose. Awarded High Commendation.

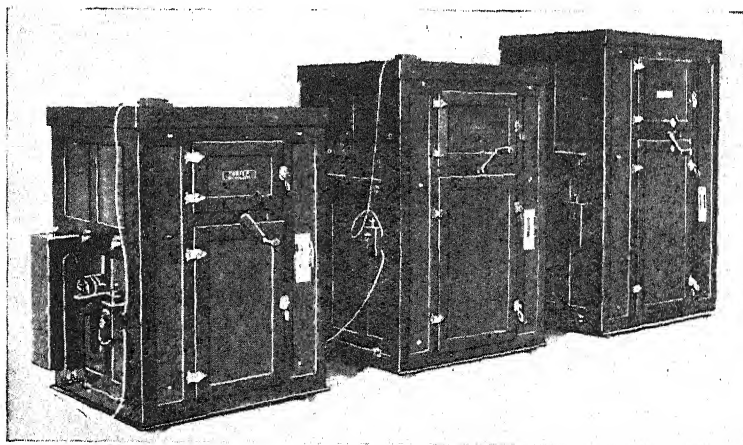
Messrs. Swift & Sons, of Scarborough, entered a patent chicken grill, or panel, that can be used for battery or any other type of brooder. The novel feature of this entry is a series of *adjustable* apertures through which the chickens feed; it can be adjusted to the size and age of the birds and saves labour and waste. This gadget fills a much needed want, and we awarded it Very High Commendation.

Messrs. Hearson & Co's All British Cabinet Incubator was an interesting exhibit. This model was extremely well finished, capacity 960 eggs. It is provided with a separate hatching chamber, which is a decided improvement in this class of incubator. It prevents the fluff from the newly hatched chickens from being spread over the other eggs and thus prevents the possibility of spreading disease germs among the other eggs in process of incubation. The separate hatching chamber is an undoubted advantage from this point of view and one that should be generally adopted. Awarded Silver Medal.

Another interesting exhibit was the Curfew Electric Cabinet Incubator, a British invention, of 1,000 egg capacity. The price of this machine is £55 which is decidedly moderate. It is well constructed and simple to operate, all controls are outside the machine and it need not be opened except to put the eggs in and take the chickens out. We awarded this exhibit a Bronze Medal.



HEARSON'S ALL-ELECTRIC CABINET INCUBATOR.



"CURFEW" CABINET INCUBATORS.

Mr. F. W. Reddaway, of Diss, exhibited an improved type of "Ark" for all ages of poultry and all weathers. The variable positions of dropping board and exit give controlled ventilation without draughts. It has drop handles, two roof lights, inspection and slide doors that make it easy of access. A decided improvement in ark construction. Awarded Very High Commendation.

Messrs. Cope & Cope, Reading, entered "The Moorcote Super Brooder and Rearer." The outstanding feature was its all metal construction, ensuring hygienic conditions, efficient ventilation, good heating arrangement, and it can be adapted for either hot water or electric heating. It is made in double tiers and it is claimed that each tier will take 200 day old chicks and carry 75 chicks per tier to 8 weeks old. Ample feeding space is provided, mash troughs are of the latest pattern, eliminating waste to a minimum. The floor is fitted with square mesh wire which prevents sagging and is made in two sections and so can be easily removed for cleaning. We considered this a good type of Brooder and awarded a Bronze Medal.



"MOORCOTE" HOT WATER UNIT BROODER.

The Ellis Brooder Co's exhibit was an appliance for adult laying birds in which they are kept during their laying period. This appliance or cage is nine feet long divided into eight compartments with a sloping wire floor so that the egg when laid rolls into a trough in front and so prevents the egg from being eaten or becoming dirty. There is one hen in each compartment; food and water is provided in front of the cage so that the hen has nothing to do but eat, drink, and manufacture eggs. This system is being tried out on a large scale by some enterprising people, and, we hear, with considerable success. It is quite an ingenious system and, if successful, many more hens can be accommodated in a house than could be done in the ordinary way, as these cages could be tiered.

The price of this exhibit was £3 10s. 0d. which we thought rather high, but the maker informed us that he hoped to produce it much cheaper in the near future. It was awarded High Commendation.

This completed a rather interesting collection.

THE DAIRY SHOW MILKING TRIALS OF 1933

By James Mackintosh, O.B.E., N.D.A., N.D.D.

The Milking Trials of the 1933 Show were carried out on similar lines to last year. The cows were housed in the Gilbey Hall and the arrangements were on the whole quite satisfactory.

There was no diminution of the keen interest shown by Breed Society representatives, owners and herdsmen in the results of the Trials. In one respect the conditions were modified from those of recent years, namely, by requiring all cows and heifers to be milked three times daily. This change increased the number of samples to be taken and analysed but the unbroken interval between 2.30 p.m. and 9.30 p.m. was greatly appreciated.

On the whole the standard of performance was somewhat below the last two shows. The British Friesian breed scored a notable success, but their chief competitors—the Ayrshires and the Dairy Shorthorns—were neither so numerous nor so efficient as usual. The Welsh Black breed was again represented but unfortunately the classes for Devons, Blue Albions and Kerries were cancelled because of insufficient entries.

Method of Awarding Points.—The awards in the different classes were made according to the following scale of points as in previous years :—

One point for every pound of milk, taking the average of two successive days' yield.

Twenty points for every pound of butter fat produced.

Four points for every pound of non-fatty solids.

One point for every ten days since calving, deducting the first 40 days and with a maximum of twelve points.

Deductions are made of 10 points each time the percentage of fat falls below 3 per cent., and 10 points each time the non-fatty solids fall below 8.5 per cent.

Disqualification for any class award or trophy on Inspection, in the Milking Trials and in the Butter Tests, follows when at any one milking, the milk yielded by any cow or heifer falls below 3 per cent. fat and at the same milking also falls below 8.5 per cent. non-fatty solids.

Number of Entries.—There was a very slight reduction in the number of entries viz., 327 in comparison with 336 in 1932.

Number of Competitors.—The number of animals present in the show and competing was 203. It is interesting to compare the percentage of entries actually competing from year to year and apparently this percentage is now somewhat higher than a few years ago. The percentages at the last nine shows are as follows:—1925—52.1 per cent.; 1926—55.5 per cent.; 1927—no cattle present; 1928—58.5 per cent.; 1929—58.4 per cent.; 1930—62.7 per cent.; 1931—60.7 per cent.; 1932—62.2 per cent., and 1933—62.1 per cent.

The proportion of entries and animals present from herds licensed by the Ministry of Health for the production of Certified and Grade A (Tuberculin Tested) Milk showed a slight increase and such animals were provided with separate accommodation at one end of the Gilbey Hall similarly to last year.

Number of Breeds Represented.—Classes are offered in the Society's Show schedule for 13 breeds but on this occasion only 10 were represented. The absentees were the Devons, Blue Albions (for the second year in succession) and the Kerries.

Highest points gained by a Cow.—No new record in this respect was set up this year but the total of 213.22 points gained by Messrs. Strutt and Parker's British Friesian "Lavenham Wallen 18th" (No. 104) was so close to the record—215.30 points—that apparently totals of over 200 points may now be expected annually.

Highest Yield of Milk.—"Lavenham Wallen 18th" (No. 104) also gave the highest yield of milk, viz., an average for the two days of 98.8 lbs. This yield is not a record as the highest yield was given at the 1929 Show by "Penshurst Lofty"—102.65 lbs.

Disqualifications.—The number of animals disqualified for competition for any award because the percentage of fat and percentage of solids-not-fat failed to attain 3 per cent. and 8.5 per cent. respectively at the same milking, was eight, representing two breeds—the Dairy Shorthorn with 3 animals and the British Friesian with 5 animals.

The British Friesian heifer (No. 145) did not complete the Milking Trials because the herdsman failed to take his milk to the sampling table at the 1.30 p.m. milking on the first day of the Trials.

As in previous years the points earned by the disqualified animals are included in the calculations for the averages for their respective classes in Tables I, II, III, V, and VI.

The Calculations: Burroughs' Calculators.—Through the kindness of the Burroughs Adding Machine Co., Ltd., of 136 Regent Street, London, W. 1, the Milking Trial Judges and their staff again had the assistance of two skilled operators and electric calculating machines in the work of determining the points gained by the individual animals. With this assistance the class awards were posted on Tuesday evening and the new arrangements for the selection of the teams of cows to represent each Breed in the competition for the Bledisloe Trophy could be carried through according to plan.

NOTES ON THE CLASSES 1 TO 32.

COWS AND HEIFERS.

Class 1. Pedigree Dairy Shorthorn Cow over 5 years old.—Entries 20; present 11. The number of animals present and competing was three less than last year and the standard of performance this year was on a lower level. The average number of points gained was almost ten below the figures of the last two years. This decrease was mainly brought about by the disqualification of two cows which gave milk containing less than 3.0 per cent. fat and 8.5 per cent. solids-not-fat at one and the same milking. All the other cows attained the class standard of 100 points. The first prize was won by Mr. J. W. Smith and Son's "Kentish Honey Jean" (No. 5) with 158.55 points; this cow was also Reserve for the Desborough Cup. She was closely followed by Mr. A. T. Loyd's "Kelmscott Hester 23rd" (No. 10) with 156.54 points.

Class 2. Pedigree Dairy Shorthorn Cow over 3 and under 5 years.—Entries 12; present 9. This class showed also a reduction in numbers and in quality of performance. One cow was disqualified for low quality milk and with this exception all the competitors attained the standard points for the class—83.3 points. The winner in this class was Mr. C. A. Chillingworth's "Siddingworth Grace 2nd" (No. 32) with the highest total of points gained by any Dairy Shorthorn—164.72. This cow also secured the Desborough Cup for obtaining the highest points in the Milking Trials in classes 1 and 2. The winner of the second prize was Captain A. S. Wills' "Thornby Barrington Duchess 3rd" (No. 31) with 127.08 points. This year two extra prizes of £5 each were offered by the Shorthorn Society for the cows in class 2 gaining most points on Inspection and in the Milking Trials. According to the values of the different positions gained, the winners were (No. 30)—Mr. J. Timberlake's "Hastoe Beauty 7th" and (No. 26)—Mr. M. Perkins' "Holmelacy Lily 5th."

Class 3. Pedigree Dairy Shorthorn Heifer. Entries 28 ; present 17. This was the largest class in the Show as regards both number of entries and number present. The standard of performance was a fair average for such a large number of competitors. Three animals failed to attain the class standard points of 66.7, and there was no outstanding performance. The first prize was won by Mr. C. J. Allday's "Fothering Babette 2nd" (No. 35) with 96.88 points and the second prize by Sir Mark Collet's "St. Clere Lady Wellesley" (No. 59) with 94.39 points. The two extra prizes of £5 each offered by the Shorthorn Society on the same lines as the similar prizes in class 2 were won by (No. 59) and (No. 40)—"Cheviot Clover" owned by Mr. F. Chapman.

Class 4. Non-Pedigree Dairy Shorthorn Cow.—Entries 10 ; present 4. Only four cows were forward in this class and of these, three attained the class standard of 110 points. The first prize was won by Capt. N. Milne Harrop's "Gwersyllt Duchess 6th" (No. 61) with 155.09 points and the second prize went to Mr. T. B. Bucknell's "Snowball" (No. 62) with 144.28 points. The extra prize of £10 offered by the Dairy Shorthorn Association for the cow in this class gaining most points on Inspection and in the Milking Trials was won by Mr. T. B. Bucknell's cow and Captain Milne Harrop's was Reserve.

Class 5. Non-Pedigree Dairy Shorthorn Heifer.—Entries 9 ; present 3. Although the number present in this class was disappointing the standard of performance was good ; in fact the average class points of 99.35 points constitutes a record. The first prize was awarded to Mr. H. Braizier's "Pretty Maid" (No. 75) with 107.39 points and the same owner's "Pretty Lass" (No. 76) obtained second place with 96.32 points. The Shorthorn Championship Prize of £50 offered by the Shorthorn Society for the Shorthorn cow or heifer, pedigree or non-pedigree, gaining most points on Inspection, in the Milking Trials and Butter Tests, such points to be calculated as for the Spencer Cup, was won by Mr. J. W. Smith and Son's "Kentish Honey Jean" (No. 5) and Mr. T. B. Bucknell's "Snowball" (No. 62) was Reserve. It appears worthy of note that in each of the five Dairy Shorthorn classes, the average live weight was lower than last year by amounts ranging from 37 lbs. to 116 lbs.

Class 6. Lincolnshire Red Shorthorn Cow.—Entries 9 ; present 4. This small class presented a study in contrasts ; two out of the four attained the class standard points—100—and two did not, whilst the highest total was 156.53 points and the lowest 62.98 points. The first prize was won by "Bendish Queen 4th" (No. 83) the property of Mr. F. Sainsbury and Messrs. J. Evens and Son's "Burton Beauty 12th" (No. 87) was second with 129.92 points.

Class 7. Lincolnshire Red Shorthorn Heifer.—Entries 8 ; present 5. The performance of this class this year was almost exactly uniform with the average of recent years, but individually there was a wide variation ; one heifer failed to attain the class standard, whereas the first prize-winner, Messrs J. Evens and Son's " Burton Venetia 2nd " (No. 95) put up a new class record, *viz.* 109.99 points and beat the previous best by 0.29 points. The second prize was awarded to Mr. F. Sainsbury's " Wratting Sunbeam " (No. 90) with 106.17 points.

Class 8. British Friesian Cow over 5 years old.—Entries 24 ; present 10. The number of animals present was but a small proportion of those entered. The standard of performance, however, was highly creditable and in spite of some loss of points for lack of fat and solids-not-fat, the average points gained by the class was 155.84—a figure well above the class standard of 110 points. The first prize was won by " Lavenham Wallen 18th " (No. 104), the property of Messrs. Strutt and Parker, with the high score of 213.22 points. As this cow also won the Spencer Cup, her owners receive the special prize of £100 offered by the British Friesian Cattle Society. Further " Lavenham Wallen 18th " gained the B.D.F.A. Supreme Individual Championship Trophy, the Barham Cup, the Shirley Cup and formed one of the British Friesian team which won the Bledisloe Challenge Trophy. The second prize was awarded to Lord Rayleigh's " Terling Skylark 18th " (No. 102) with 198.09 points.

Class 9. British Friesian Cow over 3 years and under 5 years. Entries 18 ; present 8. The proportion of animals present to those entered was again small and the standard of performance was similar to last year. All cows attained the class standard points (91.7) except two which were disqualified because of deficiency of fat and solids-not-fat. The first prize was won by No. 127 " Piddington Diana 2nd," the property of the Piddington (Northants.) Estates, Ltd., with 152.95 points, and the second prize by Captain J. Christie's " Glyndebourne Disley 2nd " (No. 121) with 142.48 points.

Class 10. British Friesian Heifer.—Entries 17 ; present 10.—The level of proficiency in this class fell considerably this year, although the number of entries and of competitors showed a welcome increase. Two animals were disqualified for deficiency of fat and solids-not-fat and one animal had to be omitted from the milking trial results because the herdsman failed to take his milk to the sampling table after having it weighed. The winner of the first prize was Mr. W. Turner's " Hawthorn Nippy " (No. 148) with 124.53 points and the second prize was gained by the Piddington (Northants.) Estates Ltd.'s " Piddington Festus Daisy " (No. 143) with 122.12 points.

Class 11. South Devon Cow over 5 years old.—Entries 10 ; present 7. The number of animals competing in this class was one less than last year and the standard of performance fell to a much lower level than in recent years. Two out of the seven competitors failed to reach the class standard of 100 points, and the class as a whole averaged only 103.18 points. An average loss of 10 points per head for milk falling below 3.0 per cent. fat and 8.5 per cent. solids-not fat was an unexpected result in a class of South Devons. The first prize was gained by "Dartington Hall Myrtle" (No. 156) the property of Dartington Hall, Ltd., with 114.52 points and the second prize by "Countess" (No. 163) owned by Mr. T. Willing, with 109.21 points.

Class 12. South Devon Cow over 3 years and under 5 years old.—Entries 10 ; present 9. In every respect this class of young cows proved superior to the preceding class. Only one animal failed to attain the class standard of 83.3 points and the average for the nine competitors was 104.09 points or very slightly above the average for the class of older cows. The first prize was awarded to "Milkmaid 3rd" (No. 166)—a daughter of the famous "Milkmaid 14th"—owned by Mr. G. Wills with 123.18 points and the second prize was won by "Ferry Primula" (No. 167), the property of Dartington Hall, Ltd., with 120.63 points. This cow (No. 167) was also the winner of the Silver Challenge Cup, presented by the South Devon Herd Book Society, in the Milking Trials and the Butter Tests, and the Reserve for this cup was "Worswell Patience 3rd" (No. 171) owned by Mr. R. W. Chaffe.

Class 13. South Devon Heifer.—Entries 8 ; present 3. The results in this class were disappointing. Only 3 animals were present, one failed to reach the class standard of 66.7 points and the average for the three was only 67.40 points. The first prize was won by Mr. G. Wills' "Hawthorn 9th" (No. 183) with 80.73 points and the second by Mr. Wakeham's "Rowden Wild White" (No. 181) with 71.07 points.

Class 14. Devon Cow.—Cancelled.

Class 15. Red Poll Cow over 5 years old.—Entries 10 ; present 7. The competition and level of performance in this class was mediocre. All cows attained the class standard of 100 points but the average for the class was only 113.44 points—a marked falling off from 147.2 points two years ago. The first prize was gained by Mr. Stuart Paul's "Holton Rainbow 6th" (No. 192) with 130.54 points. Mr. C. H. Cearn's "Weston Peggy" (No. 189) was second with 115.62 points. Mr. Stuart Paul's cow (No. 192) was also Reserve for the Thornton Challenge Cup awarded for the highest total of points gained on Inspection, in the Milking Trials and the Butter Tests.

Class 16. Red Poll Cow over 3 years and under 5 years old.—Entries 8 ; present 7. Although the proportion of entries present was very good there were no outstanding performers in the Milking Trials. All the cows attained the class standard of 83.3 points and the average for the class was 104.96 points. The first prize, and the Thornton Challenge Cup were won by Mr. C. H. Cearn's "Ashmoor Briony" (No. 196) with 124.31 points. This cow was also placed first on Inspection in the parade for the B.D.F.A. Supreme Championship. The second prize in this class was awarded to "White Hill Charming Delight" (No. 198), owned by Mrs. R. M. Foot, with 117.21 points.

Class 17. Red Poll Heifer.—Entries 8 ; present 8. All entries were present—a creditable feature, though success in this respect is not entirely under human control. Two animals failed to attain the class standard of 66.7 points and the average for the class was 82.0 points, or almost exactly the average for the six years during which milking three times daily has been practised. The first prize was won by Mr. Stuart Paul's "Kirtion Kathy" (No. 209) with 118.06 points and the second prize by Mr. Owen H. Smith's "Ranksborough Rosie" (No. 204) with 99.12 points.

Class 18. Blue Albion Cow.—No entry.

Class 19. Blue Albion Heifer.—No entry.

Class 20. Welsh Black Cow.—Entries 6 ; present 5. This breed made a welcome reappearance at the Show, and although the performance was uneven, two animals did well and one did very well on their first experience of the Milking Trials. The first prize was won by the Hon. Lady Shelley Rolls' cow "Bodelwa Beauty 7th" (No. 213) with the highly creditable total of 152.22 points. This total, as far as can be ascertained, is a record for a Welsh Black Cow at the Dairy Show. The second prize was gained by the same owner's "Topsy 4th" (No. 214) with 115.25 points.

Class 21. Ayrshire Cow.—Entries 16 ; present 8. After the high standard attained in recent years this class was disappointing both in numbers and in performance. One cow failed to attain the class standard of 100 points—a rare occurrence—and the average for the class was 140.57 points. The first prize was won by Mr. Brown's "Cormiston Towers Brownie" (No. 220) with the excellent total of 192.32 points. This cow also won the Rowallan Cup, awarded to the Ayrshire cow or heifer gaining the greatest number of points on Inspection, in the Milking Trials and the Butter Tests according to the conditions given in the catalogue, and was Reserve for the B.D.F.A. Supreme Championship, the Spencer Cup and the National Milk Cup. The second prize winner was "Newlands

Sophie " (No. 229) owned by the Eshott Pedigree Stock Farms, with the appreciably lower total of 155.55 points. This cow was also Reserve for the Rowallan Cup.

Class 22. Ayrshire Heifer.—Entries 11; present 5. Both in number and in performance this class also fell much below the standard of last year. One heifer failed to attain the class standard of 66.7 points and the average for the class was 86.00 points. The winner of the first prize was Mr. John Wallace's "Low Ersock Mull 2nd" (No. 242) with 113.61 points, and Mr. J. N. Drummond's "Bargower Miss Donald 6th" (No. 232) was second with 103.20 points.

Class 23. Guernsey Cow over 5 years old.—Entries 9; present 6. This class showed a slight increase in numbers and in standard of performance over recent years, but considering the popularity of the breed, larger numbers and better production might reasonably be expected. All cows present attained the class standard of 85 points and the average for the class was 118.76 points. The first prize was awarded to Sir Louis Baron's "Rose of L'Islet" (No. 244) with 140.11 points. The winner of the second prize was Capt. H. J. Pilbrow's "Valence Lavender 2nd" (No. 245) with 133.09 points and this cow also won the Stagenhoe Cup awarded to the owner of the Guernsey cow or heifer gaining the greatest number of points on Inspection, in the Milking Trials and in the Butter Tests. The Reserve for this Cup was Mr. E. D. Fairweather's "Treveneth Wallflower" (No. 248).

Class 24. Guernsey Cow under 5 years old and which has had 2 or more calves.—Entries 13; present 9. This class also showed an increase in number and an improvement in performance. All cows present attained the class standard of 70.8 points and the average for the class was 99.56 points. The first prize was awarded to "Norsebury May Belle" (No. 258), owned by Mrs. J. Sutcliffe Pyman, with 129.56 points, while the second prize was won by Mr. H. A. Y. Dyson's "Lenore's Polly of Cote Grange" (No. 261) with 117.86 points.

Class 25. Guernsey Heifer.—Entries 7; present 6. Although all animals in this class attained the class standard of 56.7 points, the average for the class, *viz.* 69.86 points was the lowest of recent years. The first prize was won by Capt. H. J. Pilbrow's "Charlotte of Sous Les Hongues" (No. 266) with 93.22 points and the second by A. T. Loyd's "Lockinge Duchess 6th" (No. 268) with 82.30 points.

Class 26. Jersey Cow over 5 years old.—Entries 10; present 7. In this class 8 animals were present at the commencement of the

milking trials but one was withdrawn through sickness. The numbers and standard of performance were very much on the same level as last year. The first prize was won by Mrs. Evelyn's cow "Wotton Psamead" (No. 273) with 126.67 points and the second prize by the same owner's "Wotton Early Minx" (No. 274) with 120.80 points.

Class 27. Jersey Cow under 5 years old and which has had 2 or more calves.—Entries 19; present 12. This was an excellent class, larger in size than last year and maintaining a high standard throughout; all the cows exceeded the class standard of 75 points and the average for the class was 112.60 points—only 1.3 points below the average for class 26. The first prize was won by Mrs. R. M. Foot's heifer "White Hill Boutillieres Dairylike" (No. 291) with 133.96 points. This heifer also won the National Milk Challenge Cup, awarded to the cow or heifer obtaining in the Milking Trials the greatest number of points per 1,000 lbs. live weight. The second prize was won by Mrs. Evelyn's "Wotton Pride of The Air" (No. 283) with 133.38 points.

Class 28. Jersey Heifer.—Entries 17; present 13. This also was a good class, showing an increase in numbers. One heifer failed to reach the class standard of 60 points and the average for the class was 82.87 points. The winner of the first prize was "Foxbury Valentine 2nd" (No. 305) owned by Sir John B. Lloyd, with 117.24 points and the second prize went to Messrs. A. Wander, Ltd., for their heifer "Vert Champ Hamlet Beauty" (No. 315) with 103.56 points.

Class 29. Kerry Cow.—No entry.

Class 30. Kerry Heifer.—Cancelled.

Class 31. Dexter Cow.—Entries 6; present 6. Even with milking three times daily four out of the six entries failed to reach the class standard of 70 points. In view of the performances of previous years, better results are expected. The first prize in this class went to Lady Loder's "Grinstead Hawk 5th" (No. 322) with 77.48 points, and the second prize and the Nutt Cup were won by the same owner's "Grinstead Duchess 1st" (No. 323) with 75.60 points.

Class 32. Dexter Heifer.—Entries 4; present 4.—No Dexter heifers have been present at the last two shows and this entry was welcomed. All animals exceeded the class standard, viz. 46.7 points and the average for the class was 57.40 points. Mrs. H. P. May's heifer "Braxted Flag" (No. 326) was awarded the first prize with 63.10 points and Lady Loder's "Princess 2nd of Grinstead" (No. 324) was second with 56.79 points.

NOTES ON CLASSES 33 TO 40

BULL PROGENY CLASSES.

These classes were instituted at the 1928 Show and have been continued each year although the support has been small. An exhibitor has to exhibit in classes 1 to 32 two animals of his own breeding and the progeny of one particular bull. The awards are made on the points gained in the Milking Trials, but of those gained, only those above the standard of the class will count and both animals must attain the class standard.

This year the number of entries in this group of classes totalled 21—an increase of 9 over last year. Owing however, to one or both of the progeny not being exhibited at the Show, or failing to attain the class standard in points, the competition was limited. At the same time it should be noted that no entry fee is charged for these classes, and as the importance of judging bulls of dairy breeds by the milking qualities of their progeny becomes more widely recognised, larger entries may be expected.

Class 33. Progeny of Dairy Shorthorn Bull.—Entries 8; present 5. The first prize was won for Mr. C. J. Allday by the two heifers “Fothering Fairy Duchess 2nd” (No. 34) and “Fothering Babette 2nd” (No. 35) the progeny of “Histon Foggathorpe Dairyman” (216355) bred by Chivers and Sons, with a total of 50.68 points. The second prize was won for Mr. J. Crowe by his two heifers “Oxford Rosette” (No. 55) and “Bianca Belle” (No. 56), the progeny of “Kirklevington King 3rd” (238280), also bred by Mr. Crowe, with 20.17 points.

Class 34. Progeny of Lincolnshire Red Shorthorn Bull.—Entries 2; present 1. No award could be made in this class.

Class 35. Progeny of British Friesian Bull.—Entries 3; present 2. The first prize in this class was won for Messrs. Strutt and Parker by their two cows “Lavenham Present 8th” (No. 103) and “Lavenham Wallen 18th” (No. 104)—the champion cow of the show—the progeny of “Lavenham Laddie” (17719) also bred by the exhibitors, with a total of 139.53 points. The second prize was won by “Felhampton Penelope” (No. 153) and “Felhampton Poppy” (No. 154) the property of Messrs. J. and B. M. Dale, and the progeny of “Mapleton Fireaway” (17949) bred by Mr. J. Russell, with 51.06 points.

Class 36. Progeny of Red Poll Bull.—Entries 2; present 2. In this class the progeny of “Meddlar Herdsman” (13140) gained the first prize; these were a young cow “Ranksborough Fly” (No. 194) and a heifer “Ranksborough Rosie” (No. 204) bred by Mr. Owen

H. Smith. Their combined points totalled 39.46. The second prize was won for the Hon. Clive Pearson by two heifers "Parham Rosie" (No. 202) and "Parham Mollinette" (No. 203) by the sire "Basildon Rodney" (13295) with a total of 10.95 points.

Class 37. Progeny of Ayrshire Bull.—Entry 1; present 0. No award.

Class 38. Progeny of Guernsey Bull. Entry 1; present 1. The two cows "Eswelle Joyful" (No. 246) and "Eswelle Heartsease 3rd" (No. 256) bred and exhibited by Mr. H. E. Crawford, gained the prize in this class with a total of 37.78 points. The sire of the cows was "Calehill Ivor" (5439) bred by Mr. A. Chester Beatty.

Class 39. Progeny of Jersey Bull.—Entries 2; present 1. The prize in this class was won by two young cows bred by Mrs. A. E. Phillips, *viz.* "Dalby Regal Meg" (No. 293) and "Dalby Georgina Wideawake" (No. 294) with a total of 64.09 points. The sire of these cows was "Gloxalia's Georgius Rex" (15988) bred by Mrs. J. A. Hartcup.

Class 40. Progeny of Bull of any other Dairy Breed.—Entries 2; present 2. Only one entry qualified for a prize, *viz.* the cow "Milkmaid 3rd" (No. 166) and the heifer "Hawthorn 9th" (No. 183) bred and exhibited by Mr. George Wills. They gained 53.91 points and were the progeny of the bull "Wychbrook Champion" (10995) bred by W. G. Hole.

CHALLENGE CUPS AND TROPHIES.

Open to all Breeds.

1. *The British Dairy Farmers' Association's Supreme Individual Championship Challenge Trophy.*—This trophy, the highest award which can be won by an individual animal at the Show, is awarded to the owner of the cow gaining the greatest number of points on Inspection, in the Milking Trials (provided the quality of the milk analysed during the trials does not fall below 3 per cent. fat, nor below 8.5 per cent. of non-fatty solids at any milking) and in the Butter Tests.

The points for Inspection in recent years have been awarded on a fixed scale according to the awards for inspection given in the respective classes, hence after the inspection awards were issued and the points gained in the milking trials and butter tests were available, the finding of the supreme champion was merely a matter of arithmetic. This year, for the first time, it was decided to award inspection points by actual inspection of animals chosen by each

Breed Society. After the Milking Trials and Butter Tests figures were put up in the Gilbey Hall each Breed Society could select not more than two animals of its respective breed from the cow classes (four animals from the three Dairy Shorthorn cow classes). The judging for the Inspection Points was carried out by one Judge—Mr. W. Nixon—on the basis that the best animal should receive 125 points and the other animals a lower number according to the judge's opinion.

The points gained in the Milking Trials and Butter Tests were put up by Tuesday evening and the nominations of the respective Breed Societies were received by Wednesday. The chosen animals were paraded in the Gilbey Hall on Thursday afternoon and after the points given on Inspection had been added to those gained in the Milking Trials and Butter Tests by each competitor, the winner and reserve were announced.

The winner of the trophy was "Lavenham Wallen 18th" (No. 104) owned by Messrs. Strutt and Parker. The reserve was Mr. J. A. Brown's "Cormiston Towers Brownie" (No. 220).

The points gained in each section and the breed of each animal paraded for the trophy are set out below :—

Cow.		Points gained by				Award.
Number and Breed.		Milking Trials.	Butter Tests.	Inspection.	Total.	
104	British Friesian ...	213.22	51.75	115.00	379.97	Winner Reserve
220	Ayrshire ...	192.32	51.85	105.00	349.17	
102	British Friesian ...	198.09	47.85	90.00	335.94	
229	Ayrshire ...	155.55	49.25	110.00	314.80	
18	Dairy Shorthorn ...	149.70	41.00	120.00	310.70	
283	Jersey ...	133.38	46.50	118.00	297.88	
62	Dairy Shorthorn ...	144.28	52.00	100.00	296.28	
61	do. ...	155.09	33.80	105.00	293.89	
32	do. ...	164.72	46.00	74.00	284.72	
196	Red Poll ...	124.31	29.75	125.00	279.06	
291	Jersey ...	133.96	37.00	85.00	255.96	
245	Guernsey ...	133.09	46.25	75.00	254.34	
258	do. ...	129.56	38.70	80.00	248.26	

2. *The Bledisloe Challenge Trophy.*—This trophy is awarded to the Breed Society adjudged to have the best exhibit of six cows, taking into account Inspection and Milking Trials performance. Last year's innovation that the six cows should be selected by each Breed Society after the Milking Trials points had been issued, was again adopted this year. The chosen teams of six cows were paraded for inspection on Wednesday afternoon, and judged by Mr. A. Weightman, who had to award the best team 500 points, and the others less according to his opinion of their comparative merits. At the conclusion of the Inspection judging, the points awarded to each team were added to the points gained by each animal in the team in the Milking Trials and the results announced.

Seven breed teams were paraded and the winner was ultimately found to be the British Friesian team with 1546.25 points, and the Dairy Shorthorn team was reserve with 1396.38 points.

The details of the points gained by each team are given below :—

DAIRY SHORTHORN.		BRITISH FRIESIAN.	
No. in Catalogue.	Milking Trial Points.	No. in Catalogue.	Milking Trial Points.
5	158.55	97	171.96
18	149.70	102	198.09
30	123.92	103	146.31
32	164.72	104	213.22
61	155.09	117	184.19
62	144.28	121	142.48
Total Milking Trial Points	896.26	Total Milking Trial Points	1056.25
Inspection Points ...	500.00	Inspection Points ...	490.00
TOTAL ...	1396.26	TOTAL ...	1546.25

SOUTH DEVON.		RED POLL.	
158	108.22	187	108.13
166	123.18	189	115.62
167	120.63	191	104.36
171	115.15	192	130.54
172	105.21	196	124.31
173	104.32	199	113.70
Total Milking Trial Points	676.71	Total Milking Trial Points	696.66
Inspection Points ...	400.00	Inspection Points ...	435.00
TOTAL ...	1076.71	TOTAL ...	1131.66

AYRSHIRE.		GUERNSEY.	
No. in Catalogue.	Milking Trial Points.	No. in Catalogue.	Milking Trial Points.
218	145.29	245	133.09
220	192.32	248	111.89
222	148.14	249	120.95
226	136.25	258	129.56
229	155.55	261	117.86
230	126.88	262	106.06
Total Milking Trial Points	904.43	Total Milking Trial Points	719.41
Inspection Points ...	440.00	Inspection Points ...	390.00
TOTAL ...	1344.43	TOTAL ...	1109.41

JERSEY.	
No. in Catalogue.	Milking Trial Points.
273	126.67
274	120.80
280	113.16
283	133.38
291	133.96
298	122.55
Total Milking Trial Points	750.52
Inspection Points ...	480.00
TOTAL ...	1230.52

A summary of the team results, with the teams arranged in order of merit is given below :—

Breed.	Milking Trial Points.	Inspection Points.	Total.	Award.
British Friesian ...	1056.25	490	1546.25	Winner Reserve
Dairy Shorthorn ...	896.26	500	1396.26	
Ayrshire ...	904.43	440	1344.43	
Jersey ...	750.52	480	1230.52	
Red Poll ...	696.66	435	1131.66	
Guernsey ...	719.41	390	1109.41	
South Devon ...	678.71	400	1078.71	

3. *The Morrison Challenge Trophy.*—This trophy is a reward of a high level of consistency at successive Dairy Shows. It is awarded to the owner of the cow competing in all Milking Trials, Butter Tests and in the appropriate Inspection Class at each of three consecutive shows, and gaining the highest number of points according to the following scale :—(a) number of points in Milking Trials above the class standard at each show ; (b) three times the number of points in the Butter Tests above the standard points for each breed and age period and (c) points for Inspection—first prize 40 points, second prize 30 points, third prize 20 points and fourth prize or reserve 10 points.

At this show, only one cow had complied with the conditions and she was awarded the trophy. This cow was Mr. H. H. Scott's Guernsey "Queen of North Valley" (No. 249) and the details are given below :—

"QUEEN OF NORTH VALLEY."

Year.	No. in Catalogue.	Milking Trials.			Butter Tests.			Inspection.	
		Points.	Standard.	Net Points	Points.	Standard.	Net Points	Award.	Points.
1931	274	124.12	85.00	39.12	35.75	30.00	17.25	Res.	10.00
1932	254	135.25	85.00	50.25	39.40	30.00	28.20	2nd	30.00
1933	249	120.95	85.00	35.95	45.90	30.00	47.70	H.C.	—
Total ...				125.32	Total ...		93.15	Total	40.00

Grand Total ... 258.47

4. *The Barham Challenge Cup*.—This Cup is awarded to the owner of the cow gaining the greatest number of points in the Milking Trials. The winner this year was "Lavenham Wallen 18th" (No. 104), Messrs. Strutt and Parker's British Friesian, with a total of 213.22 points. The Reserve was another British Friesian, Lord Rayleigh's "Terling Skylark 18th" (No. 102) with 198.09 points.

5. *The Spencer Challenge Cup*.—This cup is awarded to the owner of the cow gaining the greatest number of points in the Milking Trials and Butter Tests and on Inspection. The points for Inspection are allotted as follows:—first prize 50 points; second prize 45 points; third prize 40 points; reserve or V.H.C. 35 points; H.C. 30 points; and C. 25 points.

The winner here was also "Lavenham Wallen 18th" (No. 104) with 309.97 points and the reserve was Mr. Brown's Ayrshire, "Cormiston Towers Brownie" (No. 220) with 294.17 points.

6. *The Shirley Cup*.—This cup is awarded on milk yield only, provided such milk contains not less than 3.0 per cent. fat and 8.5 per cent. solids-not-fat. The winner was once more "Lavenham Wallen 18th" with a yield of 98.80 lbs. on the average of the two days of the milking trials and the reserve was "Terling Skylark 18th" with 90.75 lbs.

7. *The National Milk Challenge Cup*.—This cup is awarded to the owner of the cow or heifer of any breed obtaining in the Milking Trials the greatest number of points per 1,000 lbs. live weight; any points due for length of time since calving are added.

The winner this year was Mrs. R. M. Foot's Jersey, "White Hill Boutilliere's Dairylike" (No. 291) with 155.8 points and the reserve was Mr. J. A. Brown's Ayrshire "Cormiston Towers Brownie" (No. 220) with 151.4 points.

8. *The Robert L. Mond Special Prize* is awarded to the owner of two animals, the daughters of one registered bull, which compete in the Milking Trials and together gain the largest number of points above the class standard.

This year ten entries were received, but in three entries, one or other of the daughters failed to attain the class standard. The prize was won by Messrs. Strutt and Parker's two British Friesian cows "Lavenham Present 8th" (No. 103) and "Lavenham Wallen 18th" (No. 104) with a total of 139.53 points above the class standard. The sire of these two cows is "Lavenham Laddie" (17719) bred by the exhibitors. The reserve was Mr. G. Wills' South Devon cow and heifer "Milkmaid 3rd" (No. 166) and "Hawthorn 9th" (No. 183), the progeny of "Wychbrook Champion" (10995), with 53.91 points.

Summary of the distribution of the trophies and reserve awards amongst the different Breeds at the 1933 Show. :—

Trophy.	Winner.	Reserve.
Supreme Championship ...	British Friesian ...	Ayrshire
Bledisloe Trophy ...	British Friesian ...	Dairy Shorthorn
Morrison Trophy ...	Guernsey ...	—
Barham Cup ...	British Friesian ...	British Friesian
Spencer Cup ...	British Friesian ...	Ayrshire
Shirley Cup ...	British Friesian ...	British Friesian
National Milk Cup ...	Jersey ...	Ayrshire
R. L. Mond Prize ...	British Friesian ...	South Devon

The Record Performance Table for each class introduced two years ago, is given below with such alterations as have been rendered necessary. It may be that certain errors still exist in this Table, and any information of any record incorrectly given will be greatly appreciated.

RECORD PERFORMANCES.

Highest Points gained in the Milking Trials.

Year.	Breed and Class.	Name of Animal.	No. in Catalogue.	Points.
1931	Dairy Shorthorn Cow (over 5 years)	"Orfold Jessy 2nd" ...	9**	186.78
1931	Dairy Shorthorn Cow (3 to 5 years)	"Greattaw Darling 2nd" ...	20**	168.53
1932	Dairy Shorthorn Heifer ...	"Fothering Lady Foggathorpe"	51**	112.00
1931	Dairy Shorthorn Cow (Non-pedigree)	"Maud" ...	81**	198.35
1919	Dairy Shorthorn Heifer (Non-pedigree)	"Gem" ...	81*	118.80
1931	Lincolnshire Red Cow ...	"Wormleighton Daffodil 4th" ...	103**	195.96
1933	Lincolnshire Red Heifer ...	"Burton Venetia 2nd" ...	96**	109.99
1932	British Friesian Cow (over 5 years)	"Oakham Dainty" ...	111**	215.30
1928	British Friesian Cow (3 to 5 years)...	"Holyport Unity" ...	135**	180.10
1931	British Friesian Heifer ...	"Piddington Eve" ...	149**	133.92
1930	South Devon Cow (over 5 years)	"Milkmaid 14th" ...	181**	198.50
1932	South Devon Cow (3 to 5 years)	"Snowdrop 7th" ...	168**	158.75
1932	South Devon Heifer ...	"Ferry Primula" ...	180**	114.83
1929	Devon Cow ...	"Ruby" ...	185**	138.40
1931	Red Poll Cow (over 5 years)...	"Henham Lorinda" ...	185**	177.32
1928	Red Poll Cow (3 to 5 years)	"Knepp Beryl 3rd" ...	188**	154.70
1928	Red Poll Heifer ...	"Basildon Rosalind" ...	211**	124.80
1926	Blue Albion Cow ...	"Elsenham Jessie" ...	261*	156.80
1933	Welsh Black Cow ...	"Bodelwa Beauty 7th" ...	213**	152.22
1932	Ayrshire Cow ...	"Eglinton Juno" ...	228**	206.10
1929	Ayrshire Heifer ...	"Farden Cherub" ...	247**	133.70
1929	Guernsey Cow (over 5 years)	"Hadham Goldstream 11th" ...	259*	158.60
1929	Guernsey Cow (3 to 5 years)	"Calehill Charm" ...	265**	164.30
1932	Guernsey Heifer ...	"Dairy Queen of Clover Top" ...	260**	137.20
1931	Jersey Cow (over 5 years) ...	"Lady Spotted Pearl" ...	300**	177.86
1932	Jersey Cow (3 to 5 years) ...	"Wotton Early Minx" ...	279**	138.00
1931	Jersey Heifer ...	"Fairseat Peggy 2nd" ...	320**	119.51
1925	Kerry Cow ...	"Buckland Peace 2nd" ...	304*	134.20
1929	Kerry Heifer ...	"Hattingley Ebony" ...	324**	85.00
1928	Dexter Cow ...	"Grinstead Taxus" ...	338*	105.19
1929	Dexter Heifer ...	"Grinstead Fuschia 2nd" ...	335*	63.30

** Milked thrice daily.

* Milked twice daily.

RECORD YIELDS OF MILK.

Greatest average yields for two days.—Cows milked thrice daily :—

1929—British Friesian cow “ Penshurst Lofty ” (No. 124**),
102.65 lbs.

Greatest average yield for two days.—Cows milked twice daily :—

1924—British Friesian cow “ Beccles Peggotty ” (No. 154)
85.1 lbs.

Greatest yield of milk at one milking :—

1921—Dairy Shorthorn (non-pedigree) cow “ Golden
Sovereign ” (No. 89) 47.6 lbs.

The following tables supply valuable information on the performances of the different breeds in their respective classes at the 1933 and preceding Shows.

Table I contains in summarised form the entries, the average live weight, milk yield, fat percentages, and points earned and lost in each class, also the average milk yield and points per 1,000 lbs live weight.

Table II. shows the number of animals tested, average points gained, number of animals attaining the Association class standard points, and the average live weight of each class at the last three Shows.

Table III shows the average points in the Milking Trials by each class each year since 1922 and the ten year average.

Table IV. shows the highest points gained in each class in each year since 1923.

Table V shows the average yield and quality of the milk yielded by each class at the 1933 Show.

Table VI shows the number of animals yielding milk deficient in fat and solids not-fat in each class of each Show since 1923.

For comparative purposes the figures for cows milked twice daily and those milked thrice daily are given separately.

ERRATA.—MILKING TRIALS REPORT, 1932.

Vol. XLV., p. 135, Table I.—In Class 15, Red Poll, the Average Live Weight of class should read 1351 lbs., instead of 1622 lbs.; Yield of milk per 1,000 lbs. L.W. should read 51.9 instead of 43.2, and Points per 1,000 lbs. L.W. should read 84.3 instead of 85.3

Page 137, Table II.—In Class 3, Dairy Shorthorn Pedigree Heifers, the Average Live Weight of animals milked twice daily should be blank, and Average Live Weight of animals milked thrice daily should be 9 cwt. 51 lbs. instead of 12 cwt. 70 lbs.

Page 139, Table III.—For Dairy Shorthorn Non-Pedigree Cow, milked thrice daily, Average Points for the last five shows should read 131.4 instead of 106.4. For South Devon Heifer, milked thrice daily, Average Points in 1932 should read 95.7 instead of 121.4, and Average Points for the last five shows should read 98.2 instead of 111.1. For Dairy South Devon Cow, milked thrice daily, Average Points for 1932 should be blank, and Average Points for the last five shows should be 125.4 instead of 118.0. Page 140, Table III.—For Red Poll Heifers, milked thrice daily, Average Points for last five shows should read 82.6 instead of 87.6.

TABLE I.—SHOWING THE PERFORMANCE OF EACH CLASS—1933.

Class.	Description.	Number in Class.		Average Live Weight of Class.	Average Yield of Milk	Yield of Milk per 1,000 lbs. Live Weight.	Average Fat.	Animals below Standard for Fat A.M. or P.M.	Animals losing Points for Quality of Milk.	Average Points lost by Class for Quality of Milk.	Points per 1,000 lbs. Live Weight.	Average Points gained by Class.	B.D.F.A. Standard Points for Class.
		Entered	Present in Milking Trials.										
	<i>Cows over 5 years old.</i>			lbs.	lbs.	lbs.	%	%	%				
1	Dairy Shorthorn	20	11	1,843	63.4	47.2	4.23	27.3	36.4	11.0	96.4	129.46	100
4	Ditto Non-Pedigree	10	4	1,367	58.5	42.8	4.16	25.0	25.0	2.5	92.8	126.88	110
6	Lincoln Red Shorthorn... ..	9	4	1,492	54.8	36.7	3.55	25.0	50.0	12.5	70.3	104.96	100
8	British Friesian	24	10	1,414	77.7	55.0	3.93	30.0	40.0	10.0	110.2	155.84	110
11	South Devon	10	7	1,586	50.9	32.1	4.17	28.6	57.2	10.0	65.1	103.18	100
15	Red Poll	10	7	1,278	55.0	43.0	4.08	28.6	42.9	7.1	88.8	113.44	100
20	Welsh Black	6	5	1,160	52.1	44.9	3.61	20.0	20.0	4.0	91.6	106.30	90
21	Ayrshire	16	8	1,271	62.5	49.2	4.43	0	0	0	110.6	140.57	100
23	Guernsey	9	6	1,051	51.3	48.8	4.40	0	0	0	113.0	118.76	85
26	Jersey	10	7*	971	44.2	45.5	5.45	0	0	0	117.3	113.90	90
31	Dexter	6	6	709	30.2	42.6	3.78	50.0	50.0	8.3	87.7	62.21	70
	Carried forward	130	75										

*8 animals were present at the commencement of the Trials but one was withdrawn through sickness.

TABLE II.—SHOWING NUMBER OF COWS TESTED, AVERAGE POINTS GAINED AND NUMBER OF COWS ATTAINING THE ASSOCIATION'S STANDARD—1931 TO 1933.

Class.	Description.	B.D.P.A. Standard Points.	Number of Cows Tested.			Average Points Gained.			Number and Percentage of Cows above Standard.						Average Live Weight of Class.		
			1931	1932	1933	1931	1932	1933	1931	1932	1933	%	%	%	1931	1933	
1	Dairy Shorthorn Pedigree Cow	100	3*	4*	—	94.0	86.1	—	1	33.3	—	—	—	—	cwt. lb.	cwt. lb.	
2	Ditto (3-5 years)	83.3	11†	10†	11†	139.7	138.7	129.46	11	100.0	0	0.0	—	9	12	18.13	
3	Ditto Heifers	66.7	5†	12†	9†	93.8	53.7	—	5	71.4	—	—	—	—	12	63.12	
4	Ditto Non-Pedigree	110	3*	9†	7†	130.7	126.6	115.89	5	100.0	0	0.0	—	8	11	91.91	
5	Ditto Heifers	73.3	4*	8†	4†	73.2	94.6	80.33	2	66.7	—	—	—	—	9	84.11	
6	Lincoln Red Shorthorn	100	1*	5†	4†	87.6	96.7	104.96	8	88.9	9	100.0	14	82.3	9	56	
7	Ditto Heifers	66.7	7†	5†	4†	82.5	122.7	—	0	0.0	—	—	—	—	13	20.10	
8	British Friesian...	110	4*	4†	5†	164.9	133.2	126.88	9	100.0	7	87.5	3	75.0	12	60.12	
9	Ditto (3-5 years)	91.7	13†	15†	10†	72.9	76.4	99.35	3	75.0	1	50.0	3	100.0	10	27	
10	Ditto Heifers	66.7	7†	5†	4†	91.1	67.8	—	1	100.0	0	0.0	—	—	9	70.10	
11	South Devon	100	2†	11†	8†	99.4	96.7	104.96	7	100.0	3	60.0	2	50.0	12	96.12	
12	Ditto (3-5 years)	83.3	8†	5†	9†	140.5	104.1	91.71	2	100.0	3	75.0	4	80.0	10	58.10	
13	Ditto Heifers	66.7	7†	5†	4†	88.0	80.5	86.19	3	100.0	3	86.6	9	90.0	12	41.12	
14	Devon	90.0	—	4*	—	87.0	142.7	155.84	13	100.0	13	86.6	9	90.0	12	41.12	
15	Red Poll	160	5†	6†	7†	161.4	122.6	123.38	2	100.0	10	90.9	6	75.0	11	82.11	
16	Ditto (3-5 years)	83.3	—	5†	7†	112.9	104.1	91.71	8	100.0	5	100.0	7	77.7	10	100.10	
17	Ditto Heifer	66.7	—	—	—	140.7	125.0	103.18	6	85.7	8	100.0	5	71.4	14	5.14	
						—	120.4	104.09	—	—	5	100.0	8	88.8	—	13	18.13
						100.8	95.7	67.40	4	100.0	7	100.0	2	66.7	11	77.11	
						—	75.3	—	—	—	1	25.0	—	—	—	10	86
						147.2	113.9	113.44	5	100.0	4	66.6	7	100.0	11	69.14	
						85.5	110.9	—	1	50.0	—	—	—	—	9	5	
						130.0	—	104.96	6	85.7	—	—	7	100.0	10	93	
						76.3	—	82.00	1	100.0	—	—	—	—	10	60	
						95.5	—	—	6	100.0	—	—	6	75.0	9	60	

*Milked twice daily.

†Milked thrice daily.

The Milking Trials, 1933.

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TABLE II.—SHOWING NUMBER OF COWS TESTED, AVERAGE POINTS GAINED AND NUMBER OF COWS ATTAINING THE ASSOCIATION'S STANDARD—1931 TO 1933.

Class.	Description.	B.D.F.A. Standard Points.	Number of Cows Tested.		Average Points Gained.		Number and Percentage of Cows above Standard.						Average Live Weight of Class.	
			1931		1932		1931		1932		1933		1931	
			1931	1932	1931	1932	%	%	%	%	%	%	cwt.lb.	cwt.lb.
18	Blue Albion	...	2*	...	103.6	...	2	100.0	...	...	...	...	10	85
19	Ditto Heifers	...	1†	...	113.7	...	1	100.0	...	...	...	...	10	94
20	Welsh Black	...	1†	...	83.0	...	1	100.0	...	...	...	...	8	24
21	Ayrshires	...	...	...	115.2	...	...	...	...	...	...	...	10	34
22	Ditto Heifers	...	18†	...	106.30	...	...	...	...	...	...	...	...	...
23	Guernsey	...	...	...	147.6	102.8	18	100.0	14	100.0	7	87.5	11	7 11
24	Ditto (3-5 years)	...	...	...	95.2	101.4	8	100.0	13	100.0	4	80.0	9	58
25	Ditto Heifers	...	2*	1*	98.1	135.25	2	100.0	...	...	...	...	9	34
26	Jersey	...	7†	4†	120.8	109.7	7	100.0	3	100.0	6	100.0	10	14
27	Ditto (3-5 years)	...	4*	1*	90.0	82.5	4	100.0	1	100.0	...	...	9	66
28	Ditto Heifers	...	5†	2†	114.9	98.0	5	100.0	1	100.0	9	100.0	8	80
29	Kerry	...	...	...	...	...	...	...	...	...	...	...	9	54
30	Ditto Heifers	...	...	...	...	...	...	...	...	...	...	...	9	109
31	Ditto Heifers	...	...	...	...	...	...	...	...	...	...	...	9	20
32	Ditto Heifers	...	...	...	...	...	...	...	...	...	...	...	7	46
33	Ditto Heifers	...	...	...	...	...	...	...	...	...	...	...	8	73
34	Ditto Heifers	...	...	...	...	...	...	...	...	...	...	...	7	93
35	Ditto Heifers	...	...	...	...	...	...	...	...	...	...	...	7	93
36	Ditto Heifers	...	...	...	...	...	...	...	...	...	...	...	6	88
37	Ditto Heifers	...	...	...	...	...	...	...	...	...	...	...	7	13
38	Ditto Heifers	...	...	...	...	...	...	...	...	...	...	...	8	57
39	Ditto Heifers	...	...	...	...	...	...	...	...	...	...	...	6	104
40	Ditto Heifers	...	...	...	...	...	...	...	...	...	...	...	6	88
41	Ditto Heifers	...	...	...	...	...	...	...	...	...	...	...	6	89
42	Ditto Heifers	...	...	...	...	...	...	...	...	...	...	...	5	25
43	Ditto Heifers	...	...	...	...	...	...	...	...	...	...	...	...	...
44	Ditto Heifers	...	...	...	...	...	...	...	...	...	...	...	...	...

*Milked twice daily. †Milked thrice daily.

TABLE III.—AVERAGE POINTS GAINED IN THE MILKING TRIALS EACH YEAR SINCE 1922.

YEAR.	D.S. Cow over 5 years.	D.S. Cow 3-5 years.	D.S. Heifer.	D.S. Non- lact. Cow.	D.S. Non- lact. Heifer.	L.R.S. Cow.	L.R.S. Heifer.	B.F. Cow over 5 years.	B.F. Cow 3-5 years.	B.F. Heifer.	S.D. Cow over 5 years.	S.D. Cow 3-5 years.	S.D. Heifer.	D.S.D. Cow.	Devon Cow.	R.P. Cow over 5 years.	R.P. Cow 3-5 years.
B.D.F.A. Class Standard.	100.0	83.3	66.7	110.0	73.3	100.0	66.7	110.0	91.7	73.3	100.0	83.3	66.7	100.0	90.0	100.0	83.3
{ 1922 ... 1923 ... 1924 ... 1925 ... 1926 ... 1927 ... 1928 ... 1929 ... 1930 ... 1931 ... 1932 ... Milked twice Daily.	107.7	94.0	72.1	108.1	73.0	113.2	71.4	120.2	92.6	79.3	100.5	—	—	98.7	91.5	76.4	—
	114.4	100.3	67.0	111.1	88.7	114.2	88.9	135.0	117.4	75.6	114.9	—	—	99.7	116.7	95.5	—
	108.2	98.3	61.0	103.0	66.8	93.8	65.1	118.2	108.8	85.0	—	—	—	93.6	92.1	89.0	—
	113.7	92.8	73.3	121.7	73.3	115.4	84.0	123.8	119.8	87.9	114.9	—	—	103.2	125.4	97.7	—
	101.4	80.0	65.7	106.0	56.3*	121.1	87.7	120.0†	107.1†	80.9	—	—	—	56.0	109.7	120.5†	—
{ 1922 ... 1923 ... 1924 ... 1925 ... 1926 ... 1927 ... 1928 ... 1929 ... 1930 ... 1931 ... 1932 ... Milked once Daily.	107.8	90.0	77.7	120.1	89.3	137.2*	91.6	—	—	81.5	—	—	—	88.4†	156.9†	96.4	—
	107.2	90.1	68.5	111.0	72.8	92.2*	78.7	—	—	—	—	—	—	75.3	81.0†	85.5	—
	104.9	83.7	73.2	122.7	70.4	99.4†	88.0	—	—	—	—	—	—	—	—	—	—
	106.3	91.1	69.6	108.3	73.2	110.8	82.8	123.6	120.9	81.7	110.1	—	—	103.6	91.0	111.2	94.6
	106.3	91.1	69.6	108.3	73.2	110.8	82.8	123.6	120.9	81.7	110.1	—	—	103.6	91.0	111.2	94.6
{ 1928 ... 1929 ... 1930 ... 1931 ... 1932 ... 1933 ... Milked Three Times Daily.	127.6	95.1	75.3	—	73.6	128.8	95.7	125.6	133.4	88.0	127.4	—	—	123.5	—	84.6	126.6
	117.0	112.3	70.2	106.8	59.9	125.7	83.2	153.0	136.4	78.6	139.7	—	—	129.7	138.4†	119.8	102.2
	117.9	107.7	87.6	120.6*	91.9†	121.9	—	125.5	131.4	85.5	135.6	—	—	123.0	45.8†	122.5	110.0
	139.7	136.1	81.6	164.9	67.8	140.5	87.0	161.4	162.0	112.9	140.7	—	—	—	—	147.2	130.0
	138.7	126.0	91.6	133.2	67.8	96.7	80.5	142.7	122.6	104.1	125.0	—	—	—	—	113.9	110.9
Average Points of last 6 Shows.	120.5	115.8	80.3	126.9	99.3	104.9	80.2	155.8	123.4	91.7	103.2	120.4	67.4	—	—	113.4	105.0
	135.6	114.6	83.0	130.5	78.5	119.7	80.5	144.0	134.9	93.5	128.6	112.2	88.0	125.4	92.1	116.9	114.9

*Points for one animal only.

TABLE III.—AVERAGE POINTS GAINED IN THE MILKING TRIALS EACH YEAR SINCE 1922—Continued.

YEAR.	R.P. Heifers.	B.A. Cow.	B.A. Heifers.	W.B. Cow.	A. Cow.	A. Heifers.	G. Cow over 5 years.	G. Cow 3-5 years.	G. Heifers.	J. Cow over 5 years.	J. Cow 3-5 years.	J. Heifers.	K. Cow.	K. Heifers.	Dexter Cow.	Dexter Heifer.
B.D.F.A. Class Standard ...	66.7	100.0	66.7	100.0	100.0	66.7	85.0	70.8	56.7	90.0	75.0	60.0	80.0	53.3	70.0	46.7
{ 1922 1923 1924 1925 1926 1927 1928 1929 1930 1931 1932 } Milked Twice Daily.	64.7	78.3	—	—	95.7	78.5	88.4	72.4	62.2	70.7	—	72.1	75.3	49.9	59.7	—
	72.0	100.3	—	—	128.5	87.6	77.0	97.0	77.5	89.8	—	70.0	87.0	49.0	59.0	—
	71.5	128.3	—	—	134.1	93.2	77.4	82.3	76.2	91.9	—	80.0	79.6	38.6	—	—
	86.0	128.3	—	—	121.7	90.4	77.5	76.6	68.8	95.3	92.5	68.7	105.6	69.0	78.8	—
	77.2	120.1	—	—	—	—	91.4	89.5	64.8	98.6	97.7	60.5	112.3	65.8	62.6	—
	—	84.6	—	—	138.7†	63.1†	—	89.3†	69.1†	103.9	101.3	73.1	84.6	51.8	105.8	—
	77.0†	130.0	—	—	—	—	115.6†	132.3†	86.7	94.7	92.4	74.7	71.9	—	68.8	—
	—	110.9	64.7	—	—	—	105.8†	97.3†	84.5†	102.4	95.2	73.3	—	—	67.4	45.7
	76.3†	103.6	83.0†	—	—	—	98.1	90.0	102.5	85.0	87.6	68.5	87.6	28.4†	52.1†	51.1
	—	—	—	—	—	—	135.2	82.5	63.4	109.3	101.0	76.2	83.9	—	55.2	—
Average Points of last 10 Shows.	74.9	107.0	73.8	—	123.7	82.6	96.3	91.4	72.5	96.8	95.0	71.7	88.6	50.2	67.7	48.4
{ 1928 1929 1930 1931 1932 1933 } Milked Thrice Daily.	74.6	—	—	—	138.4	104.1	111.2	99.9	77.4	114.3	93.5	97.2†	80.8	68.6	83.8	—
	88.0	—	—	—	143.9	104.1	143.7†	113.8	—	106.9	107.9	82.9	94.0	69.1	86.1	—
	72.4	—	—	97.2	127.4	90.8	113.5	114.6	110.0†	100.7	79.7	80.9	102.1†	71.4†	74.4	50.2†
	95.5	113.7†	115.2†	—	149.3	95.2	123.0	114.9	102.1	122.3	115.4	96.5	—	—	58.5	—
	82.0	—	—	106.3	162.8	101.4	109.7	103.0	107.0	112.3	115.8	86.6	79.9	—	76.4	—
Average Points of last 6 Shows.	82.5	113.7	115.2	101.7	143.7	96.9	120.0	106.0	93.3	111.7	104.1	87.8	89.2	66.5	73.6	53.8

†Points for one animal only.

TABLE IV.—SHOWING THE HIGHEST POINTS GAINED EACH YEAR SINCE 1923.

YEAR.	D.S. Cow over 5 years.	D.S. Cow 3-5 years.	D.S. Heifer.	D.S. Non- ped. Cow.	D.S. Non- ped. Heifer.	L.R.S. Cow.	L.R.S. Heifer.	B.F. Cow over 5 years.	B.F. Cow 3-5 years.	B.F. Heifer.	S.D. Cow over 5 years.	S.D. Cow 3-5 years.	S.D. Heifer.	D.S.D. Cow.	Devon Cow.	R.P. Cow over 5 years.	R.P. Cow 3-5 years.
1923	167.1	121.9	90.0	166.1	116.5	137.6	109.0	154.7	—	78.4	139.2	—	—	—	125.3	142.7	—
1924	132.4	124.1	77.7	142.5	83.1	118.0	101.0	153.4	101.9	99.5	145.7	—	—	—	109.1	126.8	—
1925	132.9	125.4	101.8	145.9	94.6	149.9	108.0	162.3	137.0	99.5	—	—	—	119.5	135.0	116.5	116.5
1926*	137.4	133.7	87.3	147.3	56.3	159.5	103.1	120.6	167.1	109.3	—	—	—	—	113.2	148.6	104.8
1926†	121.2	146.3	99.5	146.3	—	131.9	97.2	194.1	174.7	127.4	165.9	—	—	—	68.9	130.6	122.8
1928*	123.3	109.0	77.1	115.0	78.8	109.7	109.7	163.7	180.1	115.0	158.6	—	—	160.9	131.1	120.5	120.5
1928†	139.3	115.0	90.4	—	93.2	163.3	96.3	163.7	—	—	—	—	—	—	126.9	154.7	—
1929*	147.0	134.4	91.2	151.2	104.2	137.2	99.9	186.5	179.0	97.4	183.6	—	—	102.5	136.9	120.4	120.4
1929†	149.5	127.1	91.3	108.1	—	157.7	103.1	186.5	—	81.5	—	—	—	—	106.8	163.5	163.5
1930*	125.7	143.0	93.9	128.8	86.8	98.7	97.3	169.8	162.0	125.1	198.5	—	79.0	139.5	88.4	135.2	135.2
1930†	147.8	163.3	102.5	120.6	59.9	137.6	97.3	169.8	—	—	—	—	—	—	45.8	154.2	—
1931*	119.8	130.8	95.1	82.5	88.3	99.4	99.4	191.4	171.3	133.9	173.5	—	109.8	—	—	94.5	94.5
1931†	186.8	168.5	111.8	122.7	80.8	176.0	94.4	191.4	—	—	—	—	—	—	93.5	147.7	147.7
1932*	98.6	168.2	—	122.7	80.8	125.9	102.3	215.3	175.6	113.3	140.0	158.7	114.8	—	—	155.5	144.7
1932†	100.1	162.3	112.9	177.3	113.9	—	109.9	213.2	152.9	124.5	114.5	123.2	80.7	—	—	130.5	124.3
1933†	158.5	164.7	96.9	155.1	107.4	156.5	—	—	—	—	—	—	—	—	—	—	—
YEAR.	R.P. Heifers.	B.A. Cow.	B.A. Heifers.	W.B. Cow.	A. Cow.	A. Heifers.	G. Cow over 5 years.	G. Cow 3-5 years.	G. Heifers.	J. Cow over 5 years.	J. Cow 3-5 years.	J. Heifers.	K. Cow.	K. Heifers.	Dexter Cow.	Dexter Heifer.	
1923	—	87.7	—	—	150.3	101.8	107.7	107.7	102.7	119.9	—	—	114.8	90.3	79.0	—	
1924	—	121.7	—	—	158.3	107.3	105.7	105.7	92.5	124.7	—	—	103.7	57.4	86.4	—	
1925	—	145.2	—	—	165.2	115.5	106.6	106.6	86.9	120.1	101.9	91.3	134.2	69.3	83.7	—	
1926*	—	103.1	—	—	174.2	117.6	116.5	103.8	82.1	119.6	115.5	95.5	120.7	70.7	68.3	—	
1926†	—	156.8	—	—	174.2	117.6	148.4	104.2	82.1	126.1	126.1	93.2	98.5	51.8	88.7	—	
1928*	—	125.9	—	—	138.7	122.5	126.9	93.8	69.1	113.2	109.1	95.3	98.5	71.1	105.9	—	
1928†	—	147.3	—	—	176.3	122.5	158.6	114.7	90.0	138.0	122.6	97.3	80.8	84.9	84.9	—	
1929*	—	147.3	—	—	137.2	133.7	143.7	164.3	89.9	106.4	107.4	87.7	91.2	85.0	96.1	—	
1929†	—	145.5	80.2	—	137.2	133.7	105.8	97.3	110.0	122.1	131.0	91.8	98.7	85.0	96.1	—	
1930*	—	105.6	—	116.9	146.4	108.6	138.6	149.1	84.5	114.4	131.0	90.2	102.1	61.9	80.3	72.3	
1930†	—	104.0	82.0	—	180.2	105.6	108.2	102.9	93.9	131.0	117.0	86.4	110.6	28.6	82.3	50.2	
1931*	—	113.7	105.2	—	206.1	131.9	135.2	137.5	177.9	140.4	128.5	119.5	98.1	65.4	52.1	56.7	
1931†	—	—	—	—	192.3	113.6	142.2	129.6	137.2	112.3	138.0	90.6	90.3	—	66.2	—	
1932*	—	—	—	—	—	—	—	—	93.2	126.7	133.9	117.2	—	—	94.2	—	
1932†	—	—	—	—	—	—	—	—	—	—	—	—	—	—	78.7	—	

*Milked twice daily.

†Milked thrice daily.

§The Dairy South Devon Society amalgamated with the South Devon Herd Book Society.

TABLE V.—QUANTITY AND QUALITY OF MILK—1933.

Class.	BREED.	No. of Competitors.	Average Weight of Milk.				Total Weight of Milk.	Average Composition of Milk.						Total Solids.	
			Fat.		Solids—not Fat.										
			Morn.	Aft.	Even.	%		Morn.	Aft.	Even.	%	Morn.	Aft.	Even.	%
1	Dairy Shorthorn Cow—Pedigree	11	21.06	21.23	20.50	3.99	4.03	4.00	8.85	8.86	12.84	13.46	12.92		
2	Ditto—3.5 years	6	17.62	17.90	17.32	4.53	4.80	4.87	9.02	8.93	13.55	13.68	13.80		
3	Ditto—Heifer	17	13.20	13.12	12.94	3.48	4.04	3.62	9.05	9.04	12.53	13.10	12.66		
4	Dairy Shorthorn Cow—Non-pedigree	14	19.51	20.15	18.83	3.85	4.74	3.87	9.13	9.19	12.98	13.09	13.06		
5	Ditto—Non-Pedigree Heifer	3	14.95	15.02	14.68	3.83	4.43	3.46	9.36	9.28	12.99	13.75	13.67		
6	Lincoln Red Cow	4	19.19	17.70	17.94	3.52	3.67	3.46	8.95	8.91	12.47	12.68	12.64		
7	Ditto—Heifer	5	14.43	13.38	13.48	3.81	4.18	3.54	9.17	9.36	12.90	13.36	12.90		
8	British Friesian Cow	10	26.42	26.04	25.20	3.99	4.88	3.10	8.86	8.57	11.95	11.60	11.67		
9	Ditto—3.5 years	8	24.89	24.34	25.04	3.92	4.88	3.80	8.87	8.76	12.41	12.38	12.40		
10	Ditto—Heifer	9	16.82	17.05	16.51	3.54	3.62	3.80	8.87	8.60	12.41	12.38	12.40		
11	South Devon Cow	7	16.71	17.38	16.60	3.72	3.90	4.79	9.12	9.00	12.84	12.90	13.79		
12	Ditto—Heifer	6	11.78	12.08	12.12	3.85	4.10	3.86	9.33	9.13	13.28	13.43	13.02		
13	Ditto—3.5 years	3	18.43	18.40	18.08	3.98	3.70	3.61	9.41	9.07	13.06	12.98	12.74		
14	Red Poll Cow	7	16.30	16.04	14.87	4.15	4.16	4.11	9.02	9.07	13.00	13.23	13.18		
15	Ditto—3.5 years	8	12.74	12.66	12.35	4.07	4.19	4.25	9.30	9.26	13.26	12.92	12.98		
16	Ditto—Heifer	5	18.31	17.48	16.31	3.69	3.78	4.35	9.04	9.20	12.73	13.39	13.51		
17	Welsh Black Cow	8	21.28	21.22	20.63	4.25	4.94	4.10	8.99	8.98	13.24	14.02	12.55		
18	Ayrshire Cow	5	17.99	16.98	16.31	4.55	4.57	4.87	8.99	8.80	12.83	13.67	13.68		
19	Ditto—Heifer	6	14.51	14.36	13.91	4.14	4.90	4.51	9.18	9.22	13.32	14.11	15.28		
20	Ditto—3.5 years	9	9.27	8.99	9.08	4.20	4.82	5.77	9.40	9.32	13.60	14.14	15.11		
21	Ditto—Heifer	6	14.24	15.29	14.66	4.46	4.48	6.16	9.36	9.43	13.84	15.48	14.51		
22	Jersey Cow	12	14.83	16.15	15.77	4.67	4.18	5.08	9.49	9.33	13.67	14.30	14.98		
23	Ditto—3.5 years	6	10.99	11.48	11.00	4.53	5.44	5.43	9.53	9.50	12.83	12.66	12.81		
24	Ditto—Heifer	4	10.53	9.97	9.73	3.62	3.66	4.05	9.21	8.76	12.83	12.66	12.81		
25	Ditto—Heifer	4	8.43	8.26	8.15	4.11	3.97	4.01	8.99	8.98	13.38	12.90	12.90		

NOTE.—In Class 10 the average weight of milk is for 9 animals, and the average composition of the milk is for 8 animals.

TABLE VI.—NUMBER OF ANIMALS YIELDING MILK DEFICIENT IN FAT AND OTHER SOLIDS.

BREED AND CLASS.	Less than 3 per cent. of Fat.										Less than 8.5 per cent. of Non-Fatty Solids.									
	1923	1924	1925	1926	1928	1929	1930	1931	1932	1933	1923	1924	1925	1926	1928	1929	1930	1931	1932	1933
Dairy Shorthorns.—Ped. over 5 years...	2	1	2	0	2	0	1	2	5	3	2	1	0	1	0	0	2	0	1	3
Ditto, 3-5 years ...	0	4	2	1	6	0	2	3	4	1	1	1	0	2	1	1	1	0	0	0
Ditto, Heifers ...	1	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	3
Dairy Shorthorns—Non-Ped. Cows	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ditto, Heifers ...	1	1	0	4	2	1	1	1	3	1	0	3	0	4	0	0	1	1	1	0
Lincoln Red Shorthorn Cows ...	1	1	2	0	1	1	0	1	1	2	0	2	0	0	0	0	1	0	2	0
Ditto, Heifers ...	1	4	0	1	0	1	3	1	1	1	1	1	1	0	2	6	0	4	7	3
British Friesian Cows. Over 5 years	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ditto, 3-5 years ...	4	1	0	3	7	1	0	0	5	2	0	2	2	2	0	3	3	1	0	0
Ditto, Heifers ...	1	1	0	2	4	1	5	2	1	0	0	0	0	0	1	0	0	1	1	1
South Devon Cows. Over 5 years	1	1	0	0	1	1	0	0	1	1	...	...	...	...	...	...	...	...	...	...
Ditto, 3-5 years ...	0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ditto, Heifers ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Dairy South Devon, Cows	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Devon, Cows ...	0	0	0	0	0	2	1	0	2	1	...	...	...	...	...	...	...	...	...	...
Red Poll, Cows over 5 years	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ditto, 3-5 years ...	2	3	0	1	2	1	4	2	2	2	0	1	0	0	1	0	1	1	1	0
Ditto, Heifers ...	0	0	0	1	0	0	0	0	...	...	...	...	...	...	...	...	...	...	...	...
Blue Albion, Cows	0	0	0	1	2	0	0	0	...	...	...	...	...	...	...	...	...	...	...	...
Ditto, Heifers ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Welsh Black, Cows	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ayrshire, Cows ...	0	0	0	0	0	0	0	0	...	...	...	...	...	...	...	...	...	...	...	...
Ditto, Heifers ...	0	0	2	0	2	2	3	2	3	1	0	0	0	0	0	3	1	2	0	0
Guernsey Cows. Over 5 years	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ditto, 3-5 years ...	0	0	0	1	1	1	1	1	1	1	1	0	1	0	1	1	1	0	0	0
Ditto, Heifers ...	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Jersey, Cows over 5 years	1	0	0	1	0	0	0	0	0	0	0	0	2	1	0	0	0	0	1	0
Ditto, 3-5 years ...	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ditto, Heifers ...	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kerry, Cows ...	1	0	1	2	1	1	0	0	2	0	...	...	...	...	...	...	...	...	...	...
Ditto, Heifers ...	1	1	1	0	1	1	0	0	0	...	...	...	...	...	...	...	...	...	...	...
Ditto, Cows ...	1	1	1	0	0	1	0	1	2	0	1	1	0	0	0	0	0	0	0	0
Ditto, Heifers ...	1	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Ditto, Cows ...	0	0	0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ditto, Heifers ...	0	0	0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total ...	21	36	25	27	33	21	41	21	51	33	12	17	17	23	7	30	29	15	21	20
Number Tested ...	219	239	226	233	201	198	232	218	209	202	210	239	226	233	201	198	232	218	209	202

MILKING TRIALS, 1933

CLASS 1.—DAIRY SHORTHORN COW, ENTERED IN OR ACCEPTED FOR COOPER'S HERD BOOK. BORN ON OR PREVIOUS TO 1ST AUGUST, 1928. COWS ENTERED IN THIS CLASS MUST HAVE YIELDED A MINIMUM OF 8,000 LBS. AT FIVE YEARS OLD OR OVER, OR 6,000 LBS. AT UNDER FIVE YEARS OLD DURING A LACTATION PERIOD OF 45 WEEKS, RECORDED BY A RECOGNISED MILK RECORDING SOCIETY.

Number Name	1 Stellar 5th.	3 Princess Best.	5 Kentish Honey Jean.	6 Redrice Darling 2nd.
Born	Mar. 17, 1927. 1,443	June 8, 1926. 230	Feb. 28, 1927. 1,434	July 17, 1928. 1,276
Live weight, in lbs.	1,443	Sept. 16, 32	June 24, 116	Oct. 1, 17
Last Calved	Sept. 26, 22			
Days since Calving				
Weight of Milk, 1st day	Morn. 23.0 Aft. 22.6 Even. 23.6	Morn. 20.9 Aft. 21.2 Even. 19.3	Morn. 23.2 Aft. 29.4 Even. 27.3	Morn. 18.9 Aft. 19.0 Even. 17.1
Weight of Milk, 2nd day	22.9 24.1 23.2	20.5 20.6 18.6	27.1 25.5 23.6	19.3 18.5 17.9
Total	45.9	41.8	54.9	38.2
Average	22.95	20.7	27.45	19.1
Percentage of Fat	3.07	3.87	2.88	6.19
Composition of Solids other than Fat	9.83	8.41	8.01	8.96
Total Solids	12.90	12.28	11.12	15.14
Actual weight of Fat, in lbs.	0.705	0.501	0.724	1.182
Actual weight of Solids, other than Fat, in lbs.	2.26	1.74	2.15	1.71
Points—				
For weight of Milk (lbs.)	69.70	60.55	78.05	55.35
For weight of Fat (lbs. × 20)	49.82	60.50	56.14	69.88
For weight of Solids other than Fat (lbs. × 4)	26.00	20.52	26.76	19.06
Total Points for Milk	145.52	141.57	160.95	145.19
Deductions	—	20.00	10.00	—
TOTAL POINTS GAINED FOR MILK	145.52	121.57	150.95	145.19
Points for time since Calving	—	—	7.6	—
TOTAL POINTS GAINED	145.52	121.57	158.55	145.19
Points gained for Milk per 1,000 lbs. live weight	100.5	98.8	106.0	113.8
Points for time since Calving	—	—	7.6	—
Total Points per 1,000 lbs. live weight	100.5	98.8	113.6	113.8
Remarks and Awards	Highly Commended.		1st Prize.	

CLASS 1.—DAIRY SHORTHORN COW (BORN ON OR PREVIOUS TO 1ST AUGUST, 1928)—Continued.

Number Name	14 Sweet Violet 5th.	18 Budbrooke Lass 2nd.	20 Thornby Foggathorpe 30th.
Born	July 1, 1926. 1,228	July 23, 1927. 1,246	June 16, 1927. 1,350
Live weight, in lbs.	July 21. 89	Oct. 1. 17	July 3. 107
Last Calved	...	...	...
Days since Calving	...	...	...
Weight of Milk, 1st day	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Weight of Milk, 2nd day	26.3 27.2 20.2	21.8 21.7 22.0	19.4 18.5 21.9
	27.4 22.1 22.0	22.7 21.5 20.5	20.5 19.5 20.2
Total	53.7 49.3 42.2	44.5 43.2 42.5	39.9 38.0 42.1
Average	26.85 24.65 21.1	22.25 21.6 21.25	19.95 19.0 21.05
Percentage (Fat)	2.59 3.34 2.51	4.30 5.22 4.37	4.49 4.52 4.09
Composition of Solids other than Fat	8.33 8.38 8.47	6.22 9.40 9.41	9.05 9.04 8.83
the Milk. Total Solids	10.92 11.72 10.98	13.52 14.62 13.78	13.54 13.56 12.92
Actual weight of Fat, in lbs. ... ..	...	0.957 1.128 0.920	0.896 0.859 0.861
Actual weight of Solids other than Fat, in lbs. ... ..	...	2.05 2.03 2.00	1.81 1.72 1.86
Points—	...	...	...
For weight of Milk (lbs.)	—	65.10	60.00
For weight of Fat (lbs. \times 20)	—	60.28	52.32
For weight of Solids other than Fat (lbs. \times 4)	—	24.32	21.56
Total Points for Milk	—	149.70	133.88
Deductions	—	—	—
TOTAL POINTS GAINED FOR MILK	—	149.70	133.88
Points for time since Calving	—	—	6.7
TOTAL POINTS GAINED	—	149.70	140.58
Points gained for Milk per 1,000 lbs. live weight	—	120.1	99.2
Points for time since Calving	—	—	6.7
Total Points per 1,000 lbs. live weight	—	120.1	105.9
Remarks and Awards	Disqualified.	3rd Prize.	Highly Commended.

CLASS 2.—DAIRY SHORTHORN COW (BORN AFTER 1ST AUGUST, 1928, AND PREVIOUS TO 1ST AUGUST, 1930)—Continued.

Number Name	...	...	...	...	...	...	...	27 Revels Charming Princess.	28 Frieth Butterfly 2nd.	30 Hastoe Beauty 7th.	31 Thornby Barrington Duchess 3rd.
Born	...	...	...	...	...	...	...	Sept. 24, 1928.	Feb. 3, 1929.	Feb. 16, 1930.	Dec. 23, 1929.
Live weight, in lbs.	...	...	...	...	...	...	...	1,213	1,150	1,228	1,231
Last Calved	...	...	...	...	...	...	...	Aug. 26.	Oct. 2.	Sept. 30.	Sept. 29.
Days since Calving	...	...	...	...	...	...	...	53	10	18	19
Weight of Milk, 1st day	...	...	...	...	...	...	...	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Weight of Milk, 2nd day	...	...	...	...	...	...	...	13.7 14.4 15.6	14.7 13.3 14.5	19.1 20.6 19.0	19.0 18.5 19.1
	...	...	...	...	...	...	...	13.3 15.3 14.5	15.0 16.3 14.9	19.1 17.8 17.4	21.6 19.2 19.6
Total	...	...	...	...	...	...	...	27.0 29.7 30.1	29.7 29.6 20.4	38.2 38.4 36.4	40.6 37.7 38.7
Average	...	...	...	...	...	...	...	13.5 14.85 15.05	14.85 14.8 14.7	19.1 19.2 18.2	20.3 18.85 19.35
Percentage { Fat ...	...	...	...	...	...	...	...	2.25 3.60 3.32	7.28 7.69 6.92	8.26 4.86 4.41	4.20 3.84 4.03
Composition of { Solids other than Fat	...	...	...	...	...	...	...	7.79 7.92 7.98	8.82 8.73 9.10	8.96 9.06 8.87	9.00 9.28 9.19
the Milk { Total Solids ...	...	...	...	...	...	...	...	10.04 11.52 11.30	16.10 16.42 16.02	12.22 13.92 13.28	13.20 13.12 13.22
Actual weight of Fat, in lbs.	...	...	...	...	...	...	...	— — —	1.081 1.138 1.017	0.623 0.933 .803	0.853 0.724 0.780
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	...	...	— — —	1.31 1.29 1.34	1.71 1.74 1.61	1.83 1.75 1.78
Points—	...	...	...	...	...	...	...	— — —	— — —	— — —	— — —
For weight of Milk (lbs.)	...	...	...	...	...	...	...	— — —	44.34	56.50	58.50
For weight of Fat (lbs. × 20)	...	...	...	...	...	...	...	— — —	64.72	47.14	47.14
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	...	...	— — —	15.76	20.24	21.44
Total Points for Milk	...	...	...	...	...	...	...	— — —	124.83	123.92	127.08
Deductions ...	...	...	...	...	...	...	...	— — —	— — —	— — —	— — —
Total Points GAINED FOR MILK	...	...	...	...	...	...	...	— — —	124.83	123.92	127.08
Points for time since Calving	...	...	...	...	...	...	...	— — —	— — —	— — —	— — —
TOTAL POINTS GAINED	...	...	...	...	...	...	...	— — —	124.83	123.9	127.08
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	...	...	— — —	107.7	100.9	103.2
Points for time since Calving ...	...	...	...	...	...	...	...	— — —	— — —	— — —	— — —
Total Points per 1,000 lbs. live weight	...	...	...	...	...	...	...	— — —	107.7	100.9	103.2
Remarks and Awards	...	...	...	...	...	...	...	Disqualified.	Reserve.	Highly Commended.	2nd Prize.

CLASS 2.—DAIRY SHORTHORN COW (BORN AFTER 1ST, AUGUST, 1928, AND PREVIOUS TO 1ST AUGUST, 1930)—
Continued.

CLASS 3.—DAIRY SHORTHORN HEIFER, ENTERED IN OR ELIGIBLE FOR COATES'S HERD BOOK. BORN ON OR AFTER 1ST AUGUST, 1930, AND HAVING PRODUCED ONLY ONE CALF.

Number Name	32 Siddingsworth Grace 2nd.		34 Fothering Fairy Duchess 2nd.		35 Fothering Babette 2nd		37 Chalfield Rose 18th.	
						Dec. 11, 1928, 1.448 Sept. 30, 18	Morn. Aft. Even.	Dec. 12, 1930, 1.042 Aug. 31, 48	Morn. Aft. Even.	Oct. 4, 1930, 1.204 Aug. 6, 73	Morn. Aft. Even.	Oct. 23, 1930, 1.010 Sept. 9, 39	Morn. Aft. Even.
Born	23.0 23.0 24.4	12.8 13.1 12.3	14.1 14.3 14.2	...	...	...	...
Live weight, in lbs.	23.7 24.0 21.3	13.7 12.4 13.1	14.0 13.4 13.6	...	...	...	...
Last Calved
Days since Calving
Weight of Milk, 1st day	48.7 47.0 45.7	26.5 25.5 25.4	28.1 27.7 27.8	...	...	...	...
Weight of Milk, 2nd day
Total	24.35 23.5 22.85	13.25 12.75 12.7	14.05 13.85 13.9	...	...	...	...
Average	5.17 4.48 4.82	3.61 4.16 4.63	4.73 3.87 4.42	...	...	...	...
Percentage { Fat	9.27 8.86 9.18	8.69 8.94 9.01	9.49 9.13 9.24	...	...	...	...
Composition of { Solids other than Fat	14.44 13.34 14.00	12.30 13.10 13.64	14.22 13.00 13.66	...	...	...	...
the Milk.	1.259 1.053 1.101	0.478 0.530 0.588	0.665 0.536 0.614	...	...	...	...
Actual weight of Fat, in lbs.	2.26 2.08 2.10	1.15 1.14 1.14	1.33 1.26 1.28	...	...	...	...
Actual weight of Solids, other than Fat, in lbs.
Points—	70.70	38.70	41.80	...	...	...	...
For weight of Milk (lbs.)	68.26	31.92	36.30	...	...	...	...
For weight of Fat (lbs. × 20)	25.76	13.72	15.48	...	...	...	...
For weight of Solids other than Fat (lbs. × 4)
Total Points for Milk	164.72	84.34	93.58	...	...	...	...
Deductions
TOTAL POINTS GAINED FOR MILK	164.72	84.34	93.58	...	...	...	...
Points for time since Calving	0.8	3.3	...	...	...	...
TOTAL POINTS GAINED	164.72	85.14	96.88	...	...	...	...
Points gained for Milk per 1,000 lbs. live weight	113.8	80.9	77.7	...	...	...	...
Points for time since Calving	0.8	3.3	...	...	...	...
Total Points per 1,000 lbs. live weight	113.8	81.7	81.0	...	...	...	...
Remarks and Awards	1st Prize.	Highly Commended,	1st Prize	...	...	...	...

CLASS 3.—DAIRY SHORTHORN HEIFER (BORN ON OR AFTER 1ST AUGUST, 1930)—Continued.

Number Name	44 Revels Veronica.	47 Fylde Wild Eyes 20th.	49 Fylde Peersess 19th.	53 Hasloe Barrington Duchess 12th.
Born	Oct. 18, 1930. 1,008	Jan. 12, 1931. 954	May 15, 1931. 1,146	June 16, 1931. 928
Live weight, in lbs.	Aug. 26. 53	Sept. 20. 28	Sept. 30. 18	Sept. 8. 40
Last Calved				
Days since Calving				
Weight of Milk, 1st day	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Weight of Milk, 2nd day	12.9 11.3 12.0	13.2 14.6 14.0	14.2 13.9 14.1	11.0 11.6 11.5
	10.3 11.2 13.7	13.0 14.6 12.9	13.6 13.2 12.0	10.5 9.5 7.0
Total	23.2 22.5 25.7	26.2 29.2 26.9	27.8 27.1 26.1	21.5 21.1 18.5
Average	11.6 11.25 12.85	13.1 14.6 13.45	13.9 13.55 13.05	10.75 10.55 9.25
Percentage { Fat ... other than Fat	3.00 3.52 3.18	3.00 3.26 4.32	3.26 3.78 3.30	3.29 4.59 3.85
Composition of { Solids other than Fat	8.75 9.94 9.10	8.54 8.74 8.92	9.44 9.34 9.48	9.67 9.41 9.51
the Milk { Total Solids ...	11.75 12.46 12.28	11.54 12.00 13.24	12.70 13.12 12.78	12.96 14.00 13.36
Actual weight of Fat, in lbs.	0.348 0.396 0.409	0.363 0.476 0.581	0.453 0.512 0.431	0.354 0.484 0.356
Actual weight of Solids other than Fat, in lbs.	1.02 1.01 1.17	1.12 1.28 1.20	1.31 1.27 1.24	1.04 0.99 0.88
Pounds {				
For weight of Milk (lbs.)	35.70	11.15	40.50	30.55
For weight of Fat (lbs. \times 20)	23.00	29.00	27.92	23.88
For weight of Solids other than Fat (lbs. \times 4)	12.80	14.40	15.28	11.64
Total Points for Milk	71.56	84.55	83.70	66.07
Deductions ...	—	—	—	—
TOTAL POINTS GAINED FOR MILK	71.56	84.55	83.70	66.07
Points for time since Calving	1.3	—	—	—
TOTAL POINTS GAINED	72.86	84.55	83.70	66.07
Points gained for Milk per 1,000 lbs. live weight	71.0	88.6	73.0	71.2
Points for time since Calving ...	1.3	—	—	—
Total Points per 1,000 lbs. live weight	72.3	88.6	73.0	71.2
Remarks and Awards ...	Highly Commended.	Highly Commended.	Highly Commended.	

CLASS 4.—DAIRY SHORTHORN COW, NOT ELIGIBLE FOR CLASSES 1 OR 2. COWS ENTERED IN THIS CLASS MUST HAVE YIELDED A MINIMUM OF 8,000 LBS. AT FIVE YEARS OLD OR OVER, OR 6,000 LBS. AT UNDER FIVE YEARS OLD DURING A LACTATION PERIOD OF 45 WEEKS, RECORDED BY A RECOGNISED MILK RECORDING SOCIETY.

Number Name	...	...	...	...	...	61 Gwersyllt Duchess 6th.	62 Snowball.	67 Dairy Girl.	68 Snowdrop 2nd.
Born	...	...	...	...	...	Nov. 18, 1928. 1,532 Sept. 5. 43	Dec. 1927. 1,350 Oct. 1. 17	1924 1,126 Sept. 4. 44	Sept. 23, 1927. 1,462 Sept. 3. 45
Live weight, in lbs.	...	...	...	...	...	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Last Calved	...	...	...	...	...	24.4 25.3 24.2	17.8 20.5 17.7	19.4 19.6 19.3	15.3 15.0 14.6
Days since Calving	...	...	...	...	...	22.5 25.2 22.7	21.7 21.3 18.6	17.4 18.0 18.1	17.0 16.3 15.4
Weight of Milk, 1st day	...	...	...	...	...	46.9 50.5 46.9	39.5 41.8 36.3	36.8 37.6 37.4	32.9 31.3 30.0
Weight of Milk, 2nd day	...	...	...	...	...	23.45 25.25 23.45	19.75 20.9 18.15	18.4 18.8 18.7	16.45 15.65 15.0
Percentage { Fat ...	...	...	...	...	...	3.25 4.61 3.87	4.37 6.60 5.10	4.03 4.64 4.33	3.77 3.10 2.16
Composition of { Solids other than Fat ...	...	...	...	...	...	8.99 8.89 9.13	9.37 9.26 9.56	9.25 8.82 9.33	8.89 8.81 8.74
the Milk, { Total Solids ...	...	...	...	...	...	12.24 13.50 13.00	13.74 15.86 14.06	13.25 13.43 13.06	12.06 11.91 10.90
Actual weight of Fat, in lbs.	...	...	...	...	...	0.762 1.164 0.908	0.863 1.379 0.926	0.732 0.872 0.810	0.620 0.485 0.324
Actual weight of Solids, other than Fat, in lbs.	...	...	...	...	...	2.11 2.24 2.14	1.85 1.94 1.74	1.70 1.66 1.74	1.46 1.38 1.31
Points—	...	...	...	...	...	72.15 56.68 25.96	58.80 63.36 22.12	55.90 48.48 20.40	47.10 28.78 16.60
For weight of Milk (lbs.) ...	...	...	...	...	...	154.70	144.28	124.78	92.48
For weight of Fat (lbs. × 20)	...	...	...	...	...	—	—	—	10.0
For weight of Solids other than Fat (lbs. × 4) ...	...	...	...	...	...	154.70	144.28	124.78	84.48
Total Points for Milk	...	...	...	...	...	0.3	—	0.4	0.5
Deductions ...	...	...	...	...	...	155.09	144.28	125.18	82.98
TOTAL POINTS GAINED	...	...	...	...	...	101.0 0.3	106.9	110.8 0.4	56.4 0.5
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	101.3	106.9	111.2	56.9
Points for time since Calving ...	...	...	...	...	...	1st Prize.	2nd Prize.	3rd Prize.	
Total Points per 1,000 lbs. live weight	...	...	...	...	...
Remarks and Awards	...	...	...	...	...

CLASS 5.—DAIRY SHORTHORN HEIFER. BORN ON OR AFTER 1ST AUGUST, 1930, AND HAVING PRODUCED ONLY ONE CALF.
NOT ELIGIBLE FOR CLASS 3.

Number Name	...	...	...	...	...	...	...	...	...	73 Ascost Mary.	75 Pretty Maid.	76 Pretty Lass.
Born	...	...	...	...	...	...	...	...	...	Sept., 1930. 992	Unknown. 1,079	Unknown. 1,009
Live weight, in lbs.	...	...	...	...	...	...	...	...	...	Sept. 24. 24	Aug. 20. 59	Sept. 12. 56
Last Calved	...	...	...	...	...	...	...	...	...
Days since Calving	...	...	...	...	...	...	...	...	...
Weight of Milk, 1st day	...	...	...	...	...	...	...	...	...	Morn.	Aft.	Even.
Weight of Milk, 2nd day	...	...	...	...	...	...	...	...	...	15.8	15.9	14.5
	...	...	...	...	...	...	...	...	...	14.6	15.4	14.1
	...	...	...	...	...	...	...	...	...	13.2	15.4	14.7
Total	...	...	...	...	...	...	...	...	...	30.4	31.0	28.3
Average	...	...	...	...	...	...	...	...	...	15.2	15.5	29.5
Percentage { Fat ...	...	...	...	...	...	...	...	...	...	14.4	15.9	14.75
Composition of { Solids other than Fat	...	...	...	...	...	...	...	...	...	4.24	4.05	4.16
the Milk. { Total Solids ...	...	...	...	...	...	...	...	...	...	8.97	9.33	8.89
Actual weight of Fat in lbs.	...	...	...	...	...	...	...	...	...	13.60	13.38	9.25
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	...	...	...	...	16.11	13.98	13.14
Points—	...	...	...	...	...	...	...	...	...	0.606	0.644	14.20
	...	...	...	...	...	...	...	...	...	1.36	1.48	0.550
For weight of Milk (lbs.)	...	...	...	...	...	...	...	...	...	43.60	47.25	43.10
For weight of Fat (lbs. x 20)	...	...	...	...	...	...	...	...	...	34.70	40.68	37.18
For weight of Solids other than Fat (lbs. x 4)	...	...	...	...	...	...	...	...	...	16.04	17.56	16.04
Total Points for Milk	...	...	...	...	...	...	...	...	...	94.34	105.49	96.32
Deductions ...	...	...	...	...	...	...	...	...	...	—	—	—
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	...	...	...	...	94.34	105.49	96.32
Points for time since Calving	...	...	...	...	...	...	...	...	...	—	1.9	—
TOTAL POINTS GAINED	...	...	...	...	...	...	...	...	...	94.34	107.39	96.32
Points gained for Milk per 1 000 lbs. live weight	...	...	...	...	...	...	...	...	...	95.1	98.4	95.5
Points for time since Calving ...	...	...	...	...	...	...	...	...	...	—	1.9	—
Total Points per 1 000 lbs. live weight	...	...	...	...	...	...	...	...	...	95.1	100.3	95.5
Remarks and Awards	...	...	...	...	...	...	...	...	...	3rd Prize.	1st Prize.	2nd Prize.

CLASS 6.—LINCOLNSHIRE RED SHORTHORN COW, ENTERED IN OR ACCEPTED FOR THE HERD BOOK. COWS ENTERED IN THIS CLASS MUST HAVE YIELDED A MINIMUM OF 7,000 LBS. AT FIVE YEARS OLD OR OVER, OR 5,250 LBS. AT UNDER FIVE YEARS OLD EITHER DURING A LACTATION PERIOD OF 45 WEEKS OR FOR ANY ONE COMPLETED YEAR OF A RECOGNISED MILK RECORDING SOCIETY.

83	86	87	88
Bendish Queen 4th.	Burton Royal Starlight 13th.	Burton Beauty 12th.	Bracebridge Coral 5th.
Mar. 7, 1927. 1,552 Oct. 1. 17	Apr. 20, 1927. 1,500 May 10. 161	Feb. 17, 1929. 1,691 Oct. 1. 17	Apr. 5, 1928. 1,324 Sept. 15. 33
Morn. Aft. Even. 25.7 24.3 24.8 22.1 27.3 24.1	Morn. Aft. Even. 16.0 13.8 17.0 16.3 15.4 11.8	Morn. Aft. Even. 20.4 17.1 18.1 19.8 17.9 18.1	Morn. Aft. Even. 17.3 12.0 18.0 13.9 13.8 11.6
47.8 51.6 48.9	32.3 29.2 28.8	40.2 35.0 36.2	33.2 25.8 29.6
23.9 25.8 24.45	16.15 14.6 14.4	20.1 17.5 18.1	16.6 12.9 14.8
8.09 8.95 8.36 9.85 9.33 9.56 13.04 13.28 12.92 0.882 1.019 0.822 2.23 2.41 2.34	3.07 3.10 3.23 8.25 8.24 8.45 11.32 11.34 11.68 0.496 0.453 0.465 1.33 1.20 1.22	5.22 4.17 4.84 9.36 9.25 9.86 14.53 14.70 10.94 1.049 0.780 0.876 1.88 1.62 1.78	2.10 3.40 2.40 8.54 8.80 8.84 10.94 12.26 11.24 0.949 0.446 0.356 1.47 1.14 1.31
74.15 54.46 27.92	45.15 28.26 15.00	57.70 53.10 21.12	43.80 23.00 15.68
150.53	88.41 30.0	129.92	82.98 20.0
—	—	—	—
150.53	58.41	129.92	62.98
—	12.0	—	—
156.53	70.41	129.92	62.98
100.9	38.9 12.0	81.7	47.6
100.9	50.9	81.7	47.6
1st Prize.		2nd Prize.	

CLASS 7.—LINCOLNSHIRE RED SHORTHORN HEIFER (BORN ON OR AFTER 1ST AUGUST, 1930)—Continued.

Number Name	...	...	...	...	...	...	...	...	...	96	
										Burton Cherry 15th.	Burton Venetia 2nd.
Born	...	...	...	...	...	...	...	...	...	Aug. 26, 1930.	Nov. 5, 1930.
Live weight, in lbs.	...	...	...	...	...	...	...	...	...	1,292	1,072
Last Calved	...	...	...	...	...	...	...	...	...	May 10.	Sept. 6.
Days since Calving	...	...	...	...	...	...	...	...	...	161	42
Weight of Milk, 1st day	...	...	...	...	...	...	...	...	...	Morn.	Aft.
Weight of Milk, 2nd day	...	...	...	...	...	...	...	...	...	11.6	10.5
	...	...	...	...	...	...	...	...	...	10.1	10.8
	...	...	...	...	...	...	...	...	...	9.2	9.4
	...	...	...	...	...	...	...	...	...	21.7	18.9
	...	...	...	...	...	...	...	...	...	30.2	20.2
Total	...	...	...	...	...	...	...	...	...	10.85	9.45
Average	...	...	...	...	...	...	...	...	...	10.1	10.1
Percentage (Fat ...)	...	...	...	...	...	...	...	...	...	4.02	4.35
Composition of Solids other than Fat	...	...	...	...	...	...	...	...	...	9.02	9.73
the Milk.	...	...	...	...	...	...	...	...	...	13.64	14.08
Total Solids	...	...	...	...	...	...	...	...	...	0.436	0.411
Actual weight of Fat, in lbs.	...	...	...	...	...	...	...	...	...	1.04	0.92
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	...	...	...	...	30.40	25.40
Points—	...	...	...	...	...	...	...	...	...	11.84	11.84
For weight of Milk (lbs.)	...	...	...	...	...	...	...	...	...	67.64	67.64
For weight of Fat (lbs. × 20)	...	...	...	...	...	...	...	...	...	—	—
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	...	...	...	...	109.79	109.79
Total Points for Milk	...	...	...	...	...	...	...	...	...	109.79	109.79
Deductions	...	...	...	...	...	...	...	...	...	0.2	0.2
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	...	...	...	...	109.99	109.99
Points for time since Calving	...	...	...	...	...	...	...	...	...	102.4	102.4
TOTAL POINTS GAINED	...	...	...	...	...	...	...	...	...	0.2	0.2
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	...	...	...	...	102.6	102.6
Points for time since Calving	...	...	...	...	...	...	...	...	...	—	—
Total Points per 1,000 lbs. live weight	...	...	...	...	...	...	...	...	...	1st Prize.	1st Prize.
Remarks and Awards	...	...	...	...	...	...	...	...	...	3rd Prize.	3rd Prize.

CLASS 8.—BRITISH FRIESIAN COW (BORN ON OR PREVIOUS TO 1ST AUGUST, 1928)—Continued.

Number Name	108 Hinton Auntie.	111 Burnham Snowshoes.	115 Winterbourne Anthrimum.	117 Netherhall Humberg.
Born	Apr. 8, 1925. 1,204	Oct. 26, 1924. 1,478	June 14, 1926. 1,518	Sept. 28, 1925. 1,441
Live weight, in lbs.	23.8	17.4	27.5	27.2
Last Calved	Sept. 29, 19	Sept. 30, 18	Sept. 19, 20	Sept. 24, 24
Days since Calving	24.0	19.0	24.5	26.5
Weight of Milk, 1st day	Morn. 27.1 Aft. 23.8 Even. 25.0	Morn. 18.7 Aft. 17.4 Even. 16.3	Morn. 28.4 Aft. 27.5 Even. 24.5	Morn. 27.4 Aft. 27.2 Even. 27.5
Weight of Milk, 2nd day	24.0	19.0	24.5	26.5
Total	51.1	36.4	48.0	55.0
Average	25.55	18.2	24.0	27.8
Percentage { Fat ... Composition of { Solids other than Fat ... the Milk. { Total Solids ...	2.47 8.65 11.43	5.56 8.99 14.78	3.42 4.25 11.86	4.40 9.24 13.64
Actual weight of Fat, in lbs.	1.204	8.50	9.04	9.20
Actual weight of Solids other than Fat, in lbs.	0.631	0.780	0.861	1.223
Points—	9.21	1.96	1.60	2.57
For weight of Milk (lbs.)	75.10	51.65	53.30	82.15
For weight of Fat (lbs. × 20)	43.24	18.72	18.72	71.96
For weight of Solids other than Fat (lbs. × 4)	23.40	18.72	18.72	30.08
Total Points for Milk	143.74	123.67	123.67	184.19
Deductions ...	20.0	—	—	—
TOTAL POINTS GAINED FOR MILK	123.74	123.67	123.67	184.19
Points for time since Calving	—	—	—	—
TOTAL POINTS GAINED	123.74	123.67	123.67	184.19
Points gained for Milk per 1,000 lbs. live weight	95.6	83.7	83.7	127.6
Points for time since Calving ...	—	—	—	—
Total Points per 1,000 lbs. live weight	95.6	83.7	83.7	127.6
Remarks and Awards ...	Highly Commended.	Highly Commended.	Disqualified.	3rd Prize.

CLASS 8.—BRITISH FRIESIAN COW (BORN ON OR PREVIOUS TO 1ST AUGUST, 1928)—Continued.

CLASS 9.—BRITISH FRIESIAN COW,
ENTERED IN OR ACCEPTED FOR
HERD BOOK OR THE SUPPLE-
MENTARY REGISTER, BORN
AFTER 1ST AUGUST, 1928, AND
PREVIOUS TO 1ST AUGUST, 1930.

Number Name	119 Shapwick Stella.	120 Trotting Torch 37th.	121 Glyndebourne Disley 2nd	123 Harparadams Baby 3rd.
Born	Sept. 6, 1925.	Jan. 22, 1926.	Nov. 24, 1928.	June 21, 1930.
Live weight, in lbs.	1,376	1,296	1,386	1,367
Last Calved	Sept. 20.	Sept. 14.	Oct. 1.	Sept. 15.
Days since Calving	28	34	17	33
Weight of Milk, 1st day	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Weight of Milk, 2nd day	26.9 27.0 29.9	29.3 25.7 24.5	25.5 26.2 26.7	25.8 23.4 24.2
	23.4 27.9 26.6	23.7 24.8 25.4	20.3 25.4 26.3	22.6 23.4 21.1
Total	55.3 54.9 56.5	53.0 50.5 49.9	51.8 51.6 53.0	48.4 46.8 45.3
Average	27.65 27.45 28.25	26.5 25.25 24.95	25.9 25.8 26.5	24.2 23.4 22.65
Percentage (Fat ...)	2.98 2.40 2.89	3.70 5.08 4.00	3.00 3.50 2.50	3.49 3.17 3.17
Composition of Solids other than Fat	18.02 9.40 8.63	8.63 8.56 8.26	8.80 8.74 8.50	9.17 9.25 8.97
Actual weight of Total Solids ...	19.04 11.40 11.36	12.43 13.58 12.26	11.80 12.24 11.06	12.66 12.42 12.14
Actual weight of Solids other than Fat, in lbs.	0.824 0.659 0.799	1.004 1.283 0.998	0.777 0.903 0.878	0.845 0.742 0.718
Points	2.49 2.47 2.41	2.29 2.15 2.06	2.28 2.25 2.25	2.22 2.16 2.03
For weight of Milk (lbs.) ...	83.35	76.70	78.20	70.25
For weight of Fat (lbs. × 20)	45.64	65.70	47.16	46.10
For weight of Solids other than Fat (lbs. × 4)	29.48	26.0	27.12	25.64
Total Points for Milk	158.47	163.40	152.48	141.99
Deductions ...	30.0	10.0	—	—
TOTAL POINTS GAINED FOR MILK	128.47	153.40	142.48	141.99
Points for time since Calving	—	—	—	—
TOTAL POINTS GAINED	128.47	153.40	142.48	141.99
Points gained for Milk per 1,000 lbs. live weight	93.4	122.2	102.1	103.9
Points for time since Calving ...	—	—	—	—
Total Points per 1,000 lbs. live weight ...	93.4	122.2	102.1	103.9
Remarks and Awards	Highly Commended.	Highly Commended.	2nd Prize.	3rd Prize.

CLASS 9.—BRITISH FRIESIAN COW (BORN AFTER 1ST AUGUST, 1928, AND PREVIOUS TO 1ST AUGUST, 1930)—Continued.

Number Name	...	...	...	...	...	...	...	125 Burnham Wallen 2nd.	127 Piddington Diana 2nd.	131 Hawthorn Mavis.	132 Marshgreen Kathleen.
Born	...	...	...	...	...	...	...	Apr. 16, 1929. 1,217 Sept. 21. 27	Apr. 7, 1929. 1,154 Oct. 1. 17	Sept. 6, 1929. 1,450 Sept. 24. 24	
Live weight, in lbs.	...	...	...	...	...	...	...	Morn. Aft. Even. 24.9 19.4 25.3	Morn. Aft. Even. 22.0 27.8 24.3	Morn. Aft. Even. 22.4 25.6 22.0	
Last Calved	...	...	...	...	...	...	...	25.7 23.7 24.1	23.5 23.7 25.0	21.5 20.5 22.8	
Days since Calving	...	...	...	...	...	...	...
Weight of Milk, 1st day	...	...	...	...	...	...	...
Weight of Milk 2nd day	...	...	...	...	...	...	...
Total	...	...	...	...	...	...	...	50.6 43.1 49.4	50.5 51.5 49.3	43.9 46.1 44.8	
Average	...	...	...	...	...	...	...	25.3 21.55 24.7	25.25 25.75 24.65	21.95 23.05 22.4	
Percentage { Fat ...	...	...	...	...	...	...	...	3.67 3.11 4.83	2.35 2.13 2.06	3.42 3.89 3.85	
Composition of { Solids other than Fat ...	...	...	...	...	...	...	...	8.93 8.91 8.95	8.09 7.89 7.54	9.04 8.77 8.71	
the Milk. { Total Solids ...	...	...	...	...	...	...	...	12.60 12.02 13.78	10.44 10.02 9.90	12.46 12.66 12.56	
Actual weight of Fat, in lbs.	...	...	...	...	...	...	...	0.929 0.670 1.193	— — —	0.751 0.897 0.862	
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	...	...	2.26 1.92 2.21	— — —	1.98 2.02 1.95	
Points—	...	...	...	...	...	...	...
For weight of Milk (lbs.)	...	...	...	...	...	...	...	71.55	—	—	67.40
For weight of Fat (lbs. × 20)	...	...	...	...	...	...	...	55.84	—	—	50.20
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	...	...	25.56	—	—	23.80
Total Points for Milk	...	...	...	...	...	...	...	152.95	—	—	141.40
Deductions ...	...	...	...	...	...	...	...	—	—	—	—
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	...	...	152.95	—	—	141.40
Points for time since Calving	...	...	...	...	...	...	...	—	—	—	—
TOTAL POINTS GAINED	...	...	...	...	...	...	...	152.95	—	—	141.40
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	...	...	116.1	—	—	97.5
Points for time since Calving	...	...	...	...	...	...	...	—	—	—	—
Total Points per 1,000 lbs. live weight	...	...	...	...	...	...	...	116.1	—	—	97.5
Remarks and Awards	...	...	...	...	...	...	...	1st Prize.	Disqualified.	Reserve.	
	...	...	...	...	...	...	...	Highly Commended.			

CLASS 9.—BRITISH FRIESIAN COW (BORN AFTER 1ST AUGUST, 1928, AND PREVIOUS TO 1ST AUGUST, 1930)—*Continued.*

CLASS 10.—BRITISH FRIESIAN HELFER, ENTERED IN OR ELIGIBLE FOR THE HERD BOOK OR THE SUPPLEMENTARY REGISTER, BORN ON OR AFTER 1ST AUGUST, 1930, AND HAVING PRODUCED ONLY ONE CALF.

180

The Milking Trials, 1933.

Number	Name	137 Haslington Juliana.	138 Haslington Kathleen.	141 Elmscott Mist.	143 Piddington Festus Daisy.
Born	Oct. 4, 1928. 1,283 Sept. 16. 32	Jan. 2, 1929. 1,368 Sept. 27. 21	Apr. 13, 1931. 1,078 Sept. 29. 19	Oct. 19, 1930. 1,210 Sept. 14. 34
Live weight, in lbs.	Morn. 28.9 Aft. 27.9 Even. 32.4	Morn. 28.7 Aft. 26.8 Even. 28.9	Morn. 13.7 Aft. 13.7 Even. 13.7	Morn. 19.8 Aft. 18.9 Even. 17.2
Last Calved	20.9	27.8	14.1	16.2
Days since Calving	28.7	28.8	14.9	15.8
Weight of Milk, 1st day	58.8	53.8	27.8	36.0
Weight of Milk, 2nd day	55.9	57.7	29.6	38.6
Total	61.1	57.7	28.6	33.0
Average	27.95	26.9	14.8	18.3
Percentage (Fat ...)	3.07	2.89	2.48	5.05
Composition of Solids other than Fat	8.13	9.19	8.36	9.43
Actual weight of Fat in lbs.	11.20	12.08	10.84	14.48
Actual weight of Solids, other than Fat, in lbs.	—	0.816	11.08	12.62
Points—	—	0.757	—	0.909
For weight of Milk (lbs.)	84.00	84.00	—	1.70
For weight of Fat (lbs. × 20)	44.10	44.10	—	1.65
For weight of Solids other than Fat (lbs. × 4)	30.08	30.08	—	1.50
Total Points for Milk	158.18	158.18	—	52.80
Deductions	30.0	30.0	—	44.02
Total Points GAINED FOR MILK	128.18	128.18	—	19.40
Points for time since Calving	—	—	—	—
TOTAL POINTS GAINED	128.18	128.18	—	122.12
Points gained for Milk per 1,000 lbs. live weight	80.2	80.2	—	100.9
Points for time since Calving	—	—	—	—
Total Points per 1,000 lbs. live weight	80.2	80.2	—	100.9
Remarks and Awards	Disqualified.	Highly Commended.	Disqualified.	2nd Prize.

CLASS 10.—BRITISH FRIESIAN HEIFER (BORN ON OR AFTER 1ST AUGUST, 1930)—Continued.

Number Name	...	...	...	...	...	...	...	...	...	144 Piddington Lady Carrie.	145 Eggington Rita.	146 Egham Titania 4th.	147 Chebbard Janbess.
Born	...	...	...	...	...	...	...	...	...	Sept. 17, 1930. 1,204 Sept. 14, 34	Nov. 1, 1930. 1,134 Sept. 17, 31	Nov. 29, 1930. 1,186 Aug. 29, 50	Nov. 9, 1930. 1,170 Sept. 25, 23
Live weight, in lbs.	...	...	...	...	...	...	...	...	...	Morn., 16.9	Morn., 18.5	Morn., 14.4	Morn., 18.5
Last Calved	...	...	...	...	...	...	...	...	...	Aft., 17.1	Aft., 16.3	Aft., 15.2	Aft., 18.1
Days since Calving	...	...	...	...	...	...	...	...	...	15.8	16.4	14.6	17.5
Weight of Milk, 1st day	...	...	...	...	...	...	...	...	...	30.8	35.4	28.2	36.0
Weight of Milk, 2nd day	...	...	...	...	...	...	...	...	...	32.9	32.7	29.8	36.2
Total	...	...	...	...	...	...	...	...	...	29.5	32.1	28.7	34.6
Average	...	...	...	...	...	...	...	...	...	14.75	16.05	14.35	17.3
Percentage { Fat ... Composition of Solids other than Fat	...	...	...	...	...	...	...	...	...	4.01	4.25	3.85	4.21
the Milk { Total Solids ...	...	...	...	...	...	...	...	...	...	8.81	8.81	9.03	8.53
Actual weight of Fat, in lbs.	...	...	...	...	...	...	...	...	...	12.82	13.06	12.88	12.74
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	...	...	...	...	0.591	0.609	0.574	0.604
Points—	...	...	...	...	...	...	...	...	...	1.30	1.51	1.35	1.22
For weight of Milk (lbs.)	...	...	...	...	...	...	...	...	...	46.60	—	43.45	—
For weight of Fat (lbs. × 20)	...	...	...	...	...	...	...	...	...	36.02	—	34.78	—
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	...	...	...	...	16.64	—	15.48	—
Total Points for Milk	...	...	...	...	...	...	...	...	...	99.26	—	93.61	—
Deductions ...	...	...	...	...	...	...	...	...	...	—	—	—	—
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	...	...	...	...	99.26	—	93.61	—
Points for time since Calving	...	...	...	...	...	...	...	...	...	—	—	1.0	—
TOTAL POINTS GAINED	...	...	...	...	...	...	...	...	...	99.26	—	94.61	—
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	...	...	...	...	82.4	—	78.9	—
Points for time since Calving	...	...	...	...	...	...	...	...	...	—	—	1.0	—
Total Points per 1,000 lbs. live weight	...	...	...	...	...	...	...	...	...	82.4	—	79.9	—
Remarks and Awards	...	...	...	...	...	...	...	...	...	Highly Commended.	Milk not brought to sampling table by herdsman.	Highly Commended.	Disqualified.

CLASS 10.—BRITISH FRIESIAN HEIFER (BORN ON OR AFTER 1ST AUGUST, 1930)—Continued.

Number Name	148 Hawthorn Nippy.	153 Felhampton Penelope.	154 Felhampton Poppy.	155 Chelmsford Pearl 6th.
Born	Nov. 29, 1930. 1,074	Feb. 1, 1931. 1,248	Feb. 19, 1931. 1,049	Feb. 3, 1931. 1,166
Live weight, in lbs.	Sept. 10. 38	Sept. 26 22	Sept. 27. 21	Sept. 19. 29
Last Calved				
Days since Calving				
Weight of Milk, 1st day	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Weight of Milk, 2nd day	19.4 20.4 21.4	16.8 15.2 15.2	18.0 17.1 16.0	19.3 18.6 21.1
	21.1 20.4 20.6	12.7 15.4 14.6	15.2 15.9 14.9	19.6 20.2 19.9
Total	40.5 40.8 42.0	29.5 30.6 29.8	33.2 33.0 30.9	38.9 38.8 41.0
Average	20.25 20.4 21.0	14.75 15.3 14.9	16.6 16.5 15.45	19.45 19.4 20.5
Percentage	3.46 6.09 3.10	3.07 3.16 4.72	3.47 3.75 4.07	3.77 3.07 3.00
Composition of	8.56 8.93 8.08	8.75 8.82 9.10	9.09 8.71 8.75	8.91 8.85 8.56
the Milk.	12.02 15.02 11.18	12.42 11.98 13.82	12.56 12.46 12.82	12.68 11.92 11.56
Actual weight of Fat, in lbs.	0.701 1.242 0.651	0.541 0.483 0.703	0.576 0.619 0.629	0.733 0.596 0.615
Actual weight of Solids other than Fat, in lbs.	1.73 1.82 1.70	1.29 1.35 1.36	1.51 1.44 1.35	1.73 1.72 1.75
Points—				
For weight of Milk (lbs.)	61.65	44.95	48.55	59.35
For weight of Fat (lbs. × 20)	51.88	24.54	36.48	38.88
For weight of Solids other than Fat (lbs. × 4)	21.00	16.00	17.20	20.80
Total Points for Milk	134.53	65.49	102.23	119.03
Deductions	10.0	—	—	—
TOTAL POINTS GAINED FOR MILK	124.53	65.49	102.23	119.03
Points for time since Calving	—	—	—	—
TOTAL POINTS GAINED	124.53	65.49	102.23	119.03
Points gained for Milk per 1,000 lbs. live weight	115.9	76.5	97.5	102.1
Points for time since Calving	—	—	—	—
Total Points per 1,000 lbs. live weight	115.9	76.5	97.5	102.1
Remarks and Awards	1st Prize.	Highly Commended.	Reserve.	3rd Prize.

CLASS 11.—SOUTH DEVON COW, ENTERED IN OR ACCEPTED FOR THE HERD BOOK. BORN ON OR PREVIOUS TO 1ST AUGUST, 1928. COWS ENTERED IN THIS CLASS MUST HAVE YIELDED A MINIMUM OF 7,500 LBS. AT FIVE YEARS OLD OR OVER, OR 5,600 LBS. AT UNDER FIVE YEARS OLD EITHER DURING A LACTATION PERIOD OF 45 WEEKS, OR FOR ANY ONE COMPLETED YEAR OF A RECOGNISED MILK RECORDING SOCIETY.

[illegible]

CLASS 11.—SOUTH DEVON COW (BORN ON OR PREVIOUS TO 1ST AUGUST, 1928)—Continued.

Number Name	...	...	...	...	...	162 Sandwell Hillary.	163 Countess.	164 Milkmaid 14th.
Born	...	...	...	...	...	Oct. 27, 1927. 1,400	Aug. 6, 1924. 1,834	Sept. 4, 1919. 1,538
Live weight, in lbs.	...	...	...	...	...	Aug. 10. 63	Sept. 10. 38	Sept. 25. 23
Last Calved	...	...	...	...	...
Days since Calving	...	...	...	...	...
Weight of Milk, 1st day	...	...	...	...	...	Morn. Aft. Even. 22.3 18.0 18.7	Morn. Aft. Even. 14.9 21.8 20.3	Morn. Aft. Even. 13.4 8.1 16.5
Weight of Milk, 2nd day	...	...	...	...	...	16.2 18.9 17.2	17.9 20.8 17.8	18.8 15.1 17.5
Total	...	...	...	...	...	38.5 36.9 35.9	32.8 42.6 38.1	32.2 23.2 34.0
Average	...	...	...	...	...	19.25 18.45 17.95	16.4 21.3 19.05	16.1 11.6 17.0
Percentage { Fat ... Composition of { Solids other than Fat ... the Milk. { Total Solids ...	...	...	...	...	...	4.89 4.99 3.83 8.59 8.41 8.45 13.48 13.40 12.28	2.01 3.41 5.35 9.29 9.17 9.29 11.30 12.58 14.64	4.14 4.04 6.96 8.40 8.22 8.30 12.54 12.26 15.26
Actual weight of Fat, in lbs.	...	...	...	...	...	0.941 0.921 0.087	0.830 0.726 1.019	0.667 0.469 1.183
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	1.65 1.55 1.52	1.52 1.55 1.77	1.35 0.95 1.41
Points—	...	...	...	...	...
For weight of Milk (lbs.) ...	...	...	...	...	...	55.65	56.75	44.70
For weight of Fat (lbs. × 20) ...	...	...	...	...	...	50.98	41.50	46.38
For weight of Solids other than Fat (lbs. × 4) ...	...	...	...	...	...	18.88	20.96	14.84
Total Points for Milk	...	...	...	...	...	125.51	119.21	105.92
Deductions	...	...	...	...	...	20.0	10.0	30.0
Total Points GAINED FOR MILK	...	...	...	...	...	105.51	109.21	75.92
Points for time since Calving	...	...	...	...	...	2.3	—	—
TOTAL POINTS GAINED	...	...	...	...	...	107.81	109.21	75.92
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	75.4	50.5	49.4
Points for time since Calving	...	...	...	...	...	2.3	—	—
Total Points per 1,000 lbs. live weight	...	...	...	...	...	77.7	50.5	49.4
Remarks and Awards	...	...	...	...	...	Reserve.	2nd Prize.	

CLASS 12.—SOUTH DEVON COW, ENTERED IN OR ACCEPTED FOR THE HERD BOOK. BORN AFTER 1ST AUGUST, 1928, AND PREVIOUS TO 1ST AUGUST, 1930.

Number Name	166 Milkmaid 3rd.	167 Ferry Primula.	169 Dartington Hernia 3rd.	170 Dartington Freda 3rd.
Born	Oct 3, 1929. 1,784	Aug. 24, 1929. 1,400	Sept. 24, 1929. 1,340	Oct. 10, 1929. 1,168
Live weight, in lbs.	Sept. 30. 18	Sept. 23. 25	May 26. 145	Sept. 26 22
Last Calved				
Days since Calving				
Weight of Milk, 1st day	Morn. Aft. Even. 17.8 17.7 18.1	Morn. Aft. Even. 19.8 16.6 21.7	Morn. Aft. Even. 11.9 13.6 10.7	Morn. Aft. Even. 17.9 15.8 14.0
Weight of Milk, 2nd day	18.0 18.3 17.1	18.4 17.0 18.7	11.2 10.4 9.9	18.5 15.6 17.6
Total	35.8 36.0 35.2	38.2 33.6 39.7	22.8 24.0 20.6	36.4 31.4 32.5
Average	17.9 18.0 17.6	19.1 16.8 19.85	11.4 12.0 10.3	18.2 15.7 16.25
Percentage of Fat	4.20 5.18 4.33	3.87 3.68 4.44	2.66 3.61 1.80	3.79 4.92 4.20
Composition of Solids other than Fat	9.70 9.84 9.61	9.09 9.20 8.78	9.40 9.49 9.34	9.07 9.20 9.00
Actual Milk	13.59 14.08 13.94	12.96 12.88 13.22	12.06 13.10 11.14	12.85 14.12 13.20
Actual weight of Fat, in lbs.	0.552 0.632 0.762	0.730 0.618 0.881	0.303 0.433 0.185	0.690 0.772 0.683
Actual weight of Solids, other than Fat, in lbs.	1.74 1.76 1.69	1.74 1.55 1.74	1.07 1.14 0.96	1.65 1.44 1.46
Points				
For weight of Milk (lbs.)	53.50	55.75	33.70	50.15
For weight of Fat (lbs., x 20)	48.92	44.76	18.42	42.00
For weight of Solids other than Fat (lbs. x 4)	20.76	20.12	12.68	18.20
Total Points for Milk	123.18	120.63	64.80	111.25
Deductions	—	—	20.0	—
Total Points GAINED FOR MILK	123.18	120.63	44.80	111.25
Points for time since Calving	—	—	10.5	—
TOTAL POINTS GAINED	123.18	120.63	55.30	111.25
Points gained for Milk per 1,000 lbs. live weight	69.0	86.2	33.3	95.2
Points for time since Calving	—	—	10.5	—
Total Points per 1,000 lbs. live weight	69.0	86.2	43.8	95.2
Remarks and Awards	1st Prize.	2nd Prize.		Reserve.

CLASS 12.—SOUTH DEVON COW (BORN AFTER 1ST AUGUST, 1928, AND PREVIOUS TO 1ST AUGUST, 1930)—Continued.

Number Name	...	...	...	...	...	171 Worswell Patience 3rd.	172 Crocus.	173 Sandwell Geranium.	174 Dolly 2nd.
Born	...	...	...	...	...	Oct. 13, 1928. 1,982 Sept. 4. 44	Apr. 6, 1929. 1,000 Sept. 1. 47	Aug., 1928. 1,508 Sept. 28. 20	Feb. 3, 1929. 1,498 Oct. 1. 17
Live weight, in lbs.	...	...	...	...	...	Morn. Aft. Even. 18.3 18.5 18.9	Morn. Aft. Even. 16.8 15.9 16.2	Morn. Aft. Even. 16.6 14.4 15.2	Morn. Aft. Even. 17.8 14.9 16.4
Last Calved	...	...	...	...	...	17.3 19.7 13.4	13.3 15.0 13.5	15.9 15.3 13.4	14.6 13.7 14.9
Days since Calving	...	...	...	...	...	35.6 38.2 37.3	30.1 30.9 29.7	32.5 29.7 28.0	32.4 28.0 31.3
Weight of Milk, 1st day	...	...	...	...	...	17.8 19.1 18.65	15.05 15.45 14.85	16.25 14.85 14.3	16.2 14.3 15.65
Weight of Milk, 2nd day	...	...	...	...	...	3.09 3.23 3.40	4.96 5.12 4.17	5.44 3.90 4.36	3.37 3.03 5.29
Total	...	...	...	...	...	9.33 9.41 9.64	8.80 9.24 8.50	9.70 9.02 9.62	9.51 9.47 9.25
Average	...	...	...	...	...	13.02 12.64 13.04	13.76 14.36 12.67	13.14 12.92 13.98	12.88 13.40 14.34
Percentage { Fat ... Composition of { Solids other than Fat ... the Milk. { Total Solids ...	...	...	...	...	...	0.657 0.617 0.634	0.740 0.791 0.619	0.884 0.379 0.623	0.546 0.519 0.828
Actual weight of Fat, in lbs.	...	...	...	...	...	1.66 1.80 1.80	1.32 1.43 1.26	1.58 1.34 1.38	1.54 1.35 1.45
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	55.55 38.16 21.04	45.35 43.12 16.04	45.40 41.72 17.20	46.15 37.86 17.36
For weight of Milk (lbs.) ...	...	...	...	...	...	114.75	104.51	104.32	101.37
For weight of Fat (lbs. × 20) ...	...	...	...	...	...	—	—	—	—
For weight of Solids other than Fat (lbs. × 4) ...	...	...	...	...	...	114.75	104.51	104.32	101.37
Total Points for Milk	...	...	...	...	...	114.75	104.51	104.32	101.37
Deductions ...	...	...	...	...	...	—	—	—	—
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	114.75	104.51	104.32	101.37
Points for time since Calving	...	...	...	...	...	0.4	0.7	—	—
TOTAL POINTS GAINED	...	...	...	...	...	115.15	105.21	104.32	101.37
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	57.9	65.3	69.2	67.7
Points for time since Calving ...	...	...	...	...	...	0.4	0.7	—	—
Total Points per 1,000 lbs. live weight ...	...	...	...	...	...	58.3	66.0	69.2	67.7
Remarks and Awards ...	...	...	...	...	...	3rd Prize.	Highly Commended.	Highly Commended.	Highly Commended.

CLASS 12.—SOUTH DEVON COW (BORN AFTER 1ST AUGUST, 1928, AND PREVIOUS TO 1ST AUGUST, 1930)—Continued.

CLASS 13.—SOUTH DEVON HEIFER, ENTERED IN OR ELIGIBLE FOR THE HERD BOOK. BORN ON OR AFTER 1ST AUGUST, 1930.									
Number Name	...	...	...	...	...	175 Rowden Polly 2nd.	176 Scale Jillie.	181 Rowden Wild White.	183 Hawthorn 9th.
Born	...	...	...	...	...	Nov. 3, 1929.	Dec. 14, 1930.	Jan. 24, 1931.	Sept. 1, 1930.
Live weight, in lbs.	...	...	...	...	...	1,577	1,250	1,230	1,220
Last Calved	...	...	...	...	...	Sept. 18.	July 11.	Sept. 5.	Sept. 12.
Days since Calving	...	...	...	...	...	30	99	43	36
Weight of Milk, 1st day	...	...	...	...	...	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Weight of Milk, 2nd day	...	...	...	...	...	18.7 18.4 17.6	13.0 14.9 14.1	10.1 10.3 10.1	12.6 12.4 12.2
	...	...	...	...	...	18.3 18.2 17.4	12.4 12.9 12.2	9.8 8.6 10.4	12.8 13.4 13.7
Total	...	...	...	...	...	37.0 36.6 35.0	25.4 27.8 26.3	19.9 18.9 20.5	25.4 25.8 25.9
Average	...	...	...	...	...	18.5 18.3 17.5	12.7 13.9 13.15	9.95 9.45 10.25	12.7 12.9 12.95
Percentage (Fat ...)	...	...	...	...	...	3.57 3.67 2.79	2.60 2.40 2.57	5.31 5.44 4.82	3.65 3.52 3.44
Composition of Solids other than Fat	...	...	...	...	...	9.33 9.15 8.71	9.36 9.22 9.23	9.07 8.70 8.58	9.79 9.00 8.58
the Milk. (Total Solids ...)	...	...	...	...	...	12.90 12.82 11.50	11.96 11.62 11.80	14.38 14.14 13.40	13.44 13.18 13.02
Actual weight of Fat, in lbs.	...	...	...	...	...	0.660 0.672 0.488	0.330 0.334 0.338	0.528 0.514 0.404	0.464 0.494 0.445
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	1.73 1.67 1.52	1.19 1.28 1.21	0.90 0.82 0.88	1.24 1.25 1.24
Points—	...	...	...	...	...
For weight of Milk (lbs.)	...	...	...	...	...	54.30	39.75	29.65	28.55
For weight of Fat (lbs. × 20)	...	...	...	...	...	36.40	20.04	30.72	27.20
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	19.68	14.72	10.40	14.82
Total Points for Milk	...	...	...	...	...	110.38	74.51	70.77	80.73
Deductions ...	...	...	...	...	...	10.0	30.0	—	—
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	100.38	44.51	70.77	80.73
Points for time since Calving	...	...	...	...	...	—	5.9	0.3	—
TOTAL POINTS GAINED	...	...	...	...	...	100.38	50.41	71.07	80.73
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	63.7	35.6	57.5	66.2
Points for time since Calving	...	...	...	...	...	—	5.9	0.3	—
Total Points per 1,000 lbs. live weight	...	...	...	...	...	63.7	41.5	57.8	66.2
Remarks and Awards	...	...	...	...	...	Highly Commended.		2nd Prize.	1st Prize.

CLASS 15.—RED POLL COW, ENTERED IN OR ACCEPTED FOR THE HERD BOOK. BORN ON OR PREVIOUS TO 1ST AUGUST, 1928.
COWS ENTERED IN THIS CLASS MUST HAVE YIELDED A MINIMUM OF 8,000 LBS. AT FIVE YEARS OLD OR OVER, OR 6,000 LBS. AT UNDER FIVE YEARS OLD EITHER DURING A LACTATION PERIOD OF 45 WEEKS OR FOR ANY ONE COMPLETED YEAR OF A RECOGNISED MILK RECORDING SOCIETY.

Number	...	...	...	...	...	184 Capel Buttercup.	185 Grauntcourts Tenderness.	187 Knepp Prudence 7th.	189 Weston Peggy.
Name	...	...	...	...	...
Born	...	...	...	...	...	July 21, 1928. 1,264	July 14, 1924. 1,312 Aug. 9. 70	May 6, 1926. 1,269 Sept. 13. 85	Mar. 17, 1928 1,286 Aug. 25. 84
Last Calved	...	...	...	...	...	Sept. 24. 24			
Days since Calving	...	...	...	...	...
Weight of Milk, 1st day	...	...	...	...	...	Morn. Aft. Even. 19.8 18.7 19.6	Morn. Aft. Even. 21.4 22.4 20.4	Morn. Aft. Even. 25.5 24.9 23.7	Morn. Aft. Even. 20.4 18.2 18.3
Weight of Milk, 2nd day	...	...	...	...	...	17.0 17.6 18.2	22.6 20.9 21.9	20.2 19.0 21.2	19.7 18.5 17.1
Total	...	...	...	...	...	36.8 36.3 37.8	44.0 43.3 42.3	45.7 43.9 44.9	40.1 36.7 35.4
Average	...	...	...	...	...	18.4 18.15 18.9	22.0 21.65 21.15	22.85 21.95 22.45	20.05 18.35 17.7
Percentage { Fat ...	...	...	...	...	...	4.08 4.64 4.87	3.01 2.96 2.57	3.23 2.69 2.46	3.36 3.41 3.15
Composition of { Solids other than Fat ...	...	...	...	...	...	8.02 8.54 8.59	9.19 9.06 8.67	8.59 8.69 8.68	9.24 9.47 9.35
Milk. { Total Solids ...	...	...	...	...	...	12.10 13.18 13.46	12.20 12.02 11.24	11.82 11.38 11.14	12.60 12.88 12.50
Actual weight of Fat, in lbs. ...	...	...	...	...	...	0.751 0.842 0.920	0.662 0.641 0.544	0.738 0.590 0.552	0.674 0.626 0.558
Actual weight of Solids other than Fat, in lbs. ...	...	...	...	...	...	1.43 1.55 1.62	2.02 1.96 1.88	1.96 1.91 1.95	1.85 1.74 1.65
Points—	...	...	...	...	...
For weight of Milk (lbs.) ...	...	...	...	...	...	55.45	64.80	67.25	56.10
For weight of Fat (lbs. × 20) ...	...	...	...	...	...	50.26	36.94	37.60	37.16
For weight of Solids other than Fat (lbs. × 4) ...	...	...	...	...	...	18.60	23.24	23.28	20.96
Total Points for Milk	...	...	...	...	...	124.31	124.98	128.13	114.22
Deductions ...	...	...	...	...	...	10.0	20.0	20.0	—
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	114.31	104.98	108.13	114.22
Points for time since Calving	...	...	...	...	...	—	3.0	—	1.4
TOTAL POINTS GAINED	...	...	...	...	...	114.31	107.98	108.13	115.62
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	90.4	80.0	85.2	92.4
Points for time since Calving	...	...	...	...	...	—	3.0	—	1.4
Total Points per 1,000 lbs. live weight	...	...	...	...	...	90.4	83.0	85.2	93.8
Remarks and Awards	...	...	...	...	...	3rd Prize.	Highly Commended.	Highly Commended.	2nd Prize.

CLASS 16.—RED POLL COW, ENTRED IN OR ACCEPTED FOR THE HERD BOOK. BORN AFTER 1ST AUGUST, 1928, AND PREVIOUS TO 1ST AUGUST, 1930.

Number Name	194 Ranksborough Fly.	195 Knepp Prudence 11th.	196 Ashmoor Briony.	197 Ashmoor Lively.
Born	June 12, 1929. 1,093	July 2, 1929. 1,242	Nov. 28, 1928. 1,132	Dec. 12, 1928. 1,018
Live weight, in lbs.	Jan. 26, 205	Sept. 21, 27	July 25, 85	Aug. 30, 49
Last Calved	...	...	...	...
Days since Calving	...	...	...	...
Weight of Milk, 1st day	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Weight of Milk, 2nd day	12.9 12.2 12.4	17.6 18.9 17.1	20.9 20.3 20.3	15.8 13.1 13.0
	13.3 11.8 10.6	18.4 18.9 14.3	18.7 17.5 15.0	12.8 13.0 10.1
Total	29.2 24.0 23.0	36.0 37.8 31.4	39.6 37.8 35.3	28.6 26.1 23.1
Average	13.1 12.0 11.5	18.0 18.9 15.7	19.8 18.9 17.65	14.3 13.05 11.55
Percentage { Fat ...	4.32 3.41 3.88	3.73 3.30 3.05	3.54 3.73 4.04	5.05 4.23 3.28
Composition of { Solids other than Fat	9.18 8.99 9.16	9.11 9.10 8.97	9.32 9.29 9.42	9.23 9.31 9.32
the Milk. { Total Solids ...	13.50 12.40 13.04	12.84 12.40 12.02	12.86 13.02 13.46	14.28 13.54 12.60
Actual weight of Fat, in lbs. ...	0.566 0.409 0.446	0.671 0.624 0.479	0.701 0.705 0.713	0.722 0.552 0.379
Actual weight of Solids, other than Fat, in lbs. ...	1.20 1.08 1.05	1.64 1.72 1.41	1.85 1.76 1.66	1.32 1.21 1.08
Points—				
For weight of Milk (lbs.) ...	36.60	52.60	56.35	38.90
For weight of Fat (lbs. × 20) ...	28.42	35.48	42.38	33.86
For weight of Solids other than Fat (lbs. × 4) ...	13.32	19.08	21.08	14.44
Total Points for Milk	78.34	107.16	119.81	86.40
Deductions ...	—	—	—	—
TOTAL POINTS GAINED FOR MILK	78.34	107.16	119.81	86.40
Points for time since Calving	12.0	—	4.5	0.9
TOTAL POINTS GAINED	90.34	107.16	124.31	87.30
Points gained for Milk per 1,000 lbs live weight	71.7	86.3	105.8	84.9
Points for time since Calving ...	12.0	—	4.5	0.9
Total Points per 1,000 lbs. live weight ...	83.7	86.3	110.3	85.8
Remarks and Awards ...	Highly Commended.	Reserve.	1st Prize.	Highly Commended.

CLASS 16.—RED POLL COW (BORN AFTER 1ST AUGUST, 1928, AND PREVIOUS TO 1ST AUGUST, 1930)—Continued.

Number Name	...	...	...	...	...	...	...	...	...	198 White Hill Charming Delight.	199 White Hill Red Briar.	201 Samford Witchgirl.
Born	...	...	...	...	...	...	...	...	...	Jan. 4, 1930. 1,001 Aug. 24. 55	Mar. 2, 1929. 1,184 Aug. 18. 61	Dec. 10, 1928. 954 July 25. 85
Live weight, in lbs.	...	...	...	...	...	...	...	...	...	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Last Calved	...	...	...	...	...	...	...	...	...	18.1 18.2 18.0 18.1	17.4 18.8 18.1	14.8 14.3 13.2
Days since Calving	...	...	...	...	...	...	...	...	...	17.5 16.7 16.6	17.4 18.8 18.1	11.9 12.8 11.2
Weight of Milk, 1st day	...	...	...	...	...	...	...	...	...	35.6 34.9 34.8	35.6 36.8 36.2	20.7 27.1 24.4
Weight of Milk, 2nd day	...	...	...	...	...	...	...	...	...	17.8 17.45 17.4	17.8 18.4 18.1	13.35 13.55 12.2
Total	...	...	...	...	...	...	...	...	...	3.86 4.04 4.66	3.72 3.45 3.24	4.84 4.73 4.71
Average	...	...	...	...	...	...	...	...	...	9.16 9.02 8.92	8.90 9.13 9.14	8.84 8.73 9.06
Percentage Fat	...	...	...	...	...	...	...	...	...	13.02 13.06 13.58	12.62 12.58 12.38	13.08 13.16 13.76
Composition of Solids other than Fat	...	...	...	...	...	...	...	...	...	0.687 0.705 0.811	0.662 0.635 0.586	0.646 0.641 0.575
Actual weight of Fat, in lbs.	...	...	...	...	...	...	...	...	...	1.63 1.57 1.55	1.58 1.68 1.65	1.18 1.16 1.10
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	...	...	...	...	52.65	54.30	39.10
Points—	...	...	...	...	...	...	...	...	...	44.06	37.06	37.24
For weight of Milk (lbs.)	...	...	...	...	...	...	...	...	...	19.00	19.64	13.84
For weight of Fat (lbs. × 20)	...	...	...	...	...	...	...	...	...	—	—	—
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	...	...	...	...	115.71	111.60	90.18
Total Points for Milk	...	...	...	...	...	...	...	...	...	—	—	—
Deductions	...	...	...	...	...	...	...	...	...	115.71	111.60	90.18
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	...	...	...	...	1.5	2.1	4.5
Points for time since Calving	...	...	...	...	...	...	...	...	...	117.21	113.70	94.68
TOTAL POINTS GAINED	...	...	...	...	...	...	...	...	...	115.6	94.3	94.5
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	...	...	...	...	1.5	2.1	4.5
Points for time since Calving	...	...	...	...	...	...	...	...	...	117.1	96.4	99.0
Total Points per 1,000 lbs. live weight	...	...	...	...	...	...	...	...	...	—	—	—
Remarks and Awards	...	...	...	...	...	...	...	...	...	3rd Prize.	3rd Prize.	Highly Commended.
	...	...	...	...	...	...	...	...	...	2nd Prize.	2nd Prize.	2nd Prize.

CLASS 17.—RED POLL HEIFER, ENTERED IN OR ELIGIBLE FOR THE HERD BOOK. BORN ON OR AFTER 1ST AUGUST, 1930, AND HAVING PRODUCED ONLY ONE CALF.

Number	...	...	...	...	...	...	...	202 Parham Rosie.	203 Parham Mollinette.	204 Ranksborough Rosie.	205 Seven Springs Queeny.
Name	...	...	...	...	...	...	...	...	...	...	...
Born	...	...	...	...	...	...	...	Mar. 17, 1931. 1932	Sept. 29, 1930. 1935	Nov. 13, 1930. 1935	Aug. 22, 1930. 1934
Live weight in lbs.	...	...	...	...	...	...	...	Aug. 28, 51	Sept. 11, 37	July 5, 105	Sept. 22, 26
Last Calved	...	...	...	...	...	...	...	...	...	...	...
Days since Calving	...	...	...	...	...	...	...	...	...	...	...
Weight of Milk, 1st day	...	...	...	...	...	...	...	Morn. Aft. Even. 11.9 10.7 10.3	Morn. Aft. Even. 12.3 12.8 10.8	Morn. Aft. Even. 14.4 14.2 13.9	Morn. Aft. Even. 9.0 7.7 7.5
Weight of Milk, 2nd day	...	...	...	...	...	...	...	10.3 9.5 9.3	13.1 13.1 11.6	14.0 13.5 12.6	8.3 8.7 9.3
Total	...	...	...	...	...	...	...	22.2 20.2 19.6	25.4 25.9 22.4	28.4 27.7 26.5	17.3 16.4 16.8
Average	...	...	...	...	...	...	...	11.1 10.1 9.8	12.7 12.95 11.2	14.2 13.85 13.25	8.65 8.2 8.4
Percentage { Fat ...	...	...	...	...	...	...	...	3.92 4.42 3.61	3.45 3.84 3.10	4.50 3.99 4.47	4.26 4.34 4.57
Composition of { Solids other than Fat ...	...	...	...	...	...	...	...	9.20 9.12 8.83	9.35 9.24 9.34	9.56 9.29 9.51	9.64 9.08 9.27
Milk. { Total Solids ...	...	...	...	...	...	...	...	13.12 13.54 12.44	12.80 13.08 12.44	14.06 13.28 13.98	13.90 13.42 13.84
Actual weight of Fat, in lbs.	...	...	...	...	...	...	...	0.435 0.446 0.354	0.438 0.497 0.347	0.639 0.553 0.592	0.368 0.356 0.384
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	...	...	1.02 0.92 0.87	1.19 1.20 1.05	1.36 1.29 1.26	0.83 0.74 0.78
Points—	...	...	...	...	...	...	...	...	...	...	...
For weight of Milk (lbs.)	...	...	...	...	...	...	...	31.00	36.85	41.30	25.25
For weight of Fat (lbs. × 20)	...	...	...	...	...	...	...	24.70	25.64	35.68	22.16
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	...	...	11.24	13.76	15.64	9.40
Total Points for Milk	...	...	...	...	...	...	...	66.94	76.25	92.62	56.81
Deductions ...	...	...	...	...	...	...	...	...	...	...	...
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	...	...	66.94	76.25	92.62	56.81
Points for time since Calving	...	...	...	...	...	...	...	1.1	—	6.5	—
TOTAL POINTS GAINED	...	...	...	...	...	...	...	68.04	76.25	99.12	56.81
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	...	...	63.6	71.6	90.4	46.4
Points for time since Calving	...	...	...	...	...	...	...	1.1	—	6.5	—
Total Points per 1,000 lbs. live weight	...	...	...	...	...	...	...	64.7	71.6	96.9	46.4
Remarks and Awards	...	...	...	...	...	...	...	Highly Commended.	Highly Commended.	2nd Prize.	...

CLASS 17.—RED POLL HEIFER (BORN ON OR AFTER 1ST AUGUST, 1930)—Continued.

Number Name	...	...	...	...	...	206 White Hill Fair Flighty.		207 White Hill Reckless.		208 Kirtton Quakeress		209 Kirtton Kathy.	
						Feb. 9, 1931. 906 Sept. 30. 18		Dec. 22, 1930. 1,003 Aug. 11. 68		Aug. 17, 1930. 1,074 Oct. 2. 16		Nov. 14, 1930. 953 Sept. 14. 34	
Born	...	...	...	...	...	Morn.	Aft.	Morn.	Aft.	Morn.	Aft.	Morn.	Aft.
Live weight, in lbs.	...	...	...	...	...	11.7	12.8	13.7	13.8	11.7	11.8	16.9	17.2
Last Calved	...	...	...	...	...	12.9	12.4	12.8	12.0	13.5	13.9	17.4	17.5
Days since Calving	...	...	...	...	...	24.6	25.2	26.5	25.8	25.2	25.7	34.3	35.7
Weight of Milk, 1st day	...	...	...	...	...	12.3	12.6	13.25	12.9	12.6	12.85	17.15	17.85
Weight of Milk, 2nd day	...	...	...	...	...	4.82	5.24	2.60	2.93	4.46	4.69	4.59	4.07
Total	...	...	...	...	...	9.58	9.24	8.74	9.03	9.28	9.43	9.03	9.17
Average	...	...	...	...	...	14.40	14.48	11.34	11.96	13.74	14.12	13.62	13.24
Percentage { Fat ...	...	...	...	...	...	0.593	0.660	0.345	0.378	0.562	0.603	0.787	0.726
Composition of { Solids other than Fat ...	...	...	...	...	...	1.18	1.16	1.16	1.16	1.17	1.21	1.55	1.64
the Milk, { Total Solids ...	...	...	...	...	...	36.90	36.90	38.35	38.35	38.70	38.70	53.70	53.70
Actual weight of Fat, in lbs.	...	...	...	...	...	38.18	38.18	23.14	23.14	37.42	37.42	44.96	44.96
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	14.04	14.04	13.68	13.68	14.52	14.52	19.40	19.40
Points—	...	...	...	...	...	89.12	89.12	75.17	75.17	90.64	90.64	118.00	118.00
For weight of Milk (lbs.) ...	...	...	...	...	...	—	—	20.0	20.0	—	—	—	—
For weight of Fat (lbs. × 20) ...	...	...	...	...	...	89.12	89.12	55.17	55.17	90.64	90.64	118.00	118.00
For weight of Solids other than Fat (lbs. × 4) ...	...	...	...	...	...	—	—	2.8	2.8	—	—	—	—
Total Points for Milk	...	...	...	...	...	89.12	89.12	55.17	55.17	90.64	90.64	118.00	118.00
Deductions ...	...	...	...	...	...	—	—	—	—	—	—	—	—
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	89.12	89.12	57.97	57.97	90.64	90.64	118.00	118.00
Points for time since Calving	...	...	...	...	...	98.4	98.4	55.0	55.0	84.4	84.4	123.0	123.0
TOTAL POINTS GAINED	...	...	...	...	...	98.4	98.4	57.8	57.8	84.4	84.4	123.0	123.0
Points gained for Milk per 1,000 lbs live weight	...	...	...	...	...	—	—	—	—	—	—	—	—
Points for time since Calving	...	...	...	...	...	98.4	98.4	57.8	57.8	84.4	84.4	123.0	123.0
Total Points per 1,000 lbs. live weight	...	...	...	...	...	—	—	—	—	—	—	—	—
Remarks and Awards	...	...	...	...	...	Reserve.	Reserve.	—	—	3rd Prize.	3rd Prize.	1st Prize.	1st Prize.

CLASS 21.—AYRSHIRE COW, ENTERED IN THE HERD BOOK OR APPENDICES. COWS ENTERED IN THIS CLASS MUST HAVE YIELDED A MINIMUM OF 8,000 LBS. AT FIVE YEARS OLD OR OVER, OR 6,100 LBS. AT UNDER FIVE YEARS OLD EITHER DURING A LACTATION PERIOD OF 45 WEEKS, OR FOR ANY ONE COMPLETED YEAR OF A RECOGNISED MILK RECORDING SOCIETY.

Number Name	...	...	...	...	...	218 Loaninghead May.	220 Cornistoun Towers Brownie.	521 Newlands Sunshine.	522 Lessnessock Red Rose 6th
Born	...	...	...	...	...	Apr. 4, 1927. 1,182 Sept. 11. 37	Mar. 8, 1927. 1,272 Aug. 28. 51	Apr. 17, 1924. 1,210 Sept. 17. 31	Mar. 4, 1926. 1,329 Aug. 29. 50
Live weight, in lbs.	...	...	...	...	...	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Last Calved	...	...	...	...	...	23.5 23.3 23.2	29.2 29.5 29.4	18.1 17.5 13.0	22.4 24.3 23.5
Days since Calving	...	...	...	...	...	22.2 23.1 19.0	29.2 29.5 28.2	14.1 14.2 14.7	21.8 22.5 21.9
Weight of Milk, 1st day	...	...	...	...	...	45.7 46.4 42.2	58.4 59.0 57.6	32.2 31.7 27.7	44.2 46.8 45.4
Weight of Milk, 2nd day	...	...	...	...	...	22.85 23.2 21.1	20.2 29.5 28.8	10.1 15.85 13.85	22.1 23.4 22.7
Total	...	...	...	...	...	Average			
Percentage { Fat ...	...	...	...	...	...	3.91 4.87 3.42	3.43 4.38 4.51	3.01 4.05 3.34	3.65 4.59 3.76
Composition of { Solids other than Fat	...	...	...	...	...	8.63 8.61 8.74	8.93 8.98 9.24	9.21 9.23 8.98	8.69 8.91 9.06
the Milk. { Total Solids ...	...	...	...	...	...	12.54 13.48 12.16	12.36 13.36 13.78	12.22 13.28 12.32	12.34 13.50 12.82
Actual weight of Fat, in lbs.	...	...	...	...	...	0.893 1.130 0.722	1.002 1.292 1.308	0.485 0.642 0.463	0.807 1.074 0.854
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	1.97 2.00 1.84	2.61 2.65 2.66	1.48 1.46 1.24	1.92 2.08 2.06
Points—	...	...	...	...	...
For weight of Milk (lbs.)	...	...	...	...	...	67.15	87.50	45.80	68.20
For weight of Fat (lbs. × 20)	...	...	...	...	...	54.90	72.04	31.80	54.70
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	23.24	31.68	10.72	24.24
Total Points for Milk	...	...	...	...	...	145.29	191.22	94.32	147.14
Deductions ...	...	...	...	...	...	—	—	—	—
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	145.29	191.22	94.32	147.14
Points for time since Calving	...	...	...	...	...	—	1.1	—	1.0
TOTAL POINTS GAINED	...	...	...	...	...	145.29	192.32	94.32	148.14
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	122.9	150.3	78.0	110.7
Points for time since Calving	...	...	...	...	...	—	1.1	—	1.0
Total Points per 1,000 lbs. live weight	...	...	...	...	...	122.9	151.4	78.0	111.7
Remarks and Awards	...	...	...	...	...	Reserve.	1st Prize.		3rd Prize.

CLASS 21.—AYRSHIRE COW—Continued.

Number Name	223 Pickens's Nannie.	226 Hunterhouse Lena.	229 Newlands Sophie.	230 Muneraig Soncie.
Born	Feb. 23, 1925.	Nov. 18, 1927.	Oct. 15, 1927.	Dec. 6, 1926.
Live weight, in lbs.	1,260	1,221	1,458	1,230
Last Calved	Aug. 23.	Oct. 1.	Sept. 29.	Sept. 29.
Days since Calving	56	17	19	19
Weight of Milk, 1st day	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Weight of Milk, 2nd day	19.1 19.6 16.9	16.7 15.2 14.8	23.5 23.1 19.5	21.0 19.6 19.8
	18.7 20.0 19.5	16.1 18.3 17.8	24.9 21.6 20.7	19.9 18.3 18.6
Total	37.8 39.6 36.4	32.8 33.5 32.6	48.4 44.7 40.2	40.9 37.9 38.4
Average	18.9 19.8 18.2	16.4 16.75 16.3	24.2 22.35 20.1	20.45 18.95 19.2
Percentage { Fat	4.02 4.46 3.78	7.63 6.97 6.05	4.41 6.03 3.84	3.98 4.17 4.04
Composition of { Solids other than Fat	9.04 9.08 9.20	9.49 9.33 9.55	9.27 9.45 9.66	8.61 9.05 8.80
the Milk. { Total Solids	13.06 13.54 12.98	17.12 16.30 15.60	13.68 15.48 13.50	12.62 13.22 12.84
Actual weight of Fat, in lbs.	0.760 0.833 0.688	1.251 1.167 0.980	1.097 1.348 0.772	0.814 0.790 0.776
Actual weight of Solids, other than Fat, in lbs. Points—	1.71 1.80 1.67	1.56 1.56 1.56	2.24 2.11 1.94	1.77 1.71 1.69
For weight of Milk (lbs.)	56.90	40.45	63.65	58.60
For weight of Fat (lbs. × 20)	46.62	68.08	63.74	47.60
For weight of Solids other than Fat (lbs. × 4)	20.72	18.72	25.16	20.68
Total Points for Milk	124.24	136.25	155.55	126.88
Deductions	—	—	—	—
TOTAL POINTS GAINED FOR MILK	124.24	136.25	155.55	126.88
Points for time since Calving	1.6	—	—	—
TOTAL POINTS GAINED	125.84	136.25	155.55	126.88
Points gained for Milk per 1,000 lbs. live weight	98.6	111.6	106.7	102.4
Points for time since Calving	1.6	—	—	—
Total Points per 1,000 lbs. live weight	100.2	111.6	106.7	102.4
Remarks and Awards	Highly Commended.	Highly Commended.	2nd Prize.	Highly Commended.

The Milking Trials, 1933.

[illegible]

CLASS 23.—GUERNSEY COW, ENTERED IN OR ACCEPTED FOR THE HERD BOOK. BORN ON OR PREVIOUS TO 1ST AUGUST, 1928. COWS ENTERED IN THIS CLASS MUST HAVE YIELDED A MINIMUM OF 8,000 LBS. AT FIVE YEARS OLD OR OVER, OR 6,000 LBS. AT UNDER FIVE YEARS OLD DURING A LACTATION PERIOD OF 45 WEEKS OR FOR ANY ONE COMPLETED YEAR OF A RECOGNISED MILK RECORDING SOCIETY.

Number Name	...	...	...	...	...	244 Rose of L'Islet.	245 Valence Lavender 2nd.	246 Esvelle Joyful.	248 Treveneth Wallflower.
Born	...	...	...	...	...	June 9, 1926. 1,012 Sept. 17. 31	Aug. 24, 1927. 992 Sept. 9. 39	Jan. 30, 1927. 1,009 Feb. 6. 254	June 4, 1927. 1,064 Oct. 1. 17
Live weight, in lbs.	...	...	...	...	...	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Last Calved	...	...	...	...	...	22.7 22.2 23.1	19.1 19.1 20.5	17.9 15.3 13.6	17.0 15.3 16.1
Days since Calving	...	...	...	...	...	24.4 22.5 20.4	22.2 21.1 18.7	12.2 11.1 10.9	16.9 16.2 14.8
Weight of Milk, 1st day	...	...	...	...	...	47.1 44.7 43.5	41.3 40.2 39.2	30.1 26.4 24.5	33.9 31.5 30.9
Weight of Milk, 2nd day	...	...	...	...	...	23.55 22.35 21.75	20.65 20.1 19.6	15.05 13.2 12.25	16.95 15.75 15.45
Average	...	...	...	...	...	3.17 3.43 3.97	3.97 4.33 4.28	4.80 3.63 4.58	4.96 5.45 3.61
Percentage	...	...	...	...	...	9.25 9.23 9.15	9.15 9.29 9.10	9.32 9.15 8.88	9.74 9.51 9.73
Composition of	...	...	...	...	...	12.42 12.66 13.12	13.12 13.62 13.38	14.12 12.78 13.46	14.70 14.96 13.34
the Milk.	...	...	...	...	...	0.747 0.707 0.863	0.820 0.870 0.839	0.722 0.479 0.561	0.841 0.858 0.558
Actual weight of Fat, in lbs.	...	...	...	...	...	2.18 2.06 1.99	1.89 1.87 1.78	1.40 1.21 1.09	1.65 1.50 1.50
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	67.05 47.54 21.92	60.35 50.58 22.16	40.50 35.24 14.80	48.15 45.14 18.60
For weight of Milk (lbs.)	...	...	...	...	...	140.11	133.09	90.54	111.89
For weight of Fat (lbs. × 20)	...	...	...	...	...	—	—	—	—
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	140.11	133.09	90.54	111.89
Total Points for Milk	...	...	...	...	...	140.11	133.09	90.54	111.89
Deductions	...	...	...	...	...	—	—	—	—
Total Points GAINED FOR MILK	...	...	...	...	...	140.11	133.09	90.54	111.89
Points for time since Calving	...	...	...	...	...	—	—	12.0	—
TOTAL POINTS GAINED	...	...	...	...	...	140.11	133.09	102.54	111.89
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	138.4	134.2	89.7	105.2
Points for time since Calving	...	...	...	...	...	—	—	12.0	—
Total Points per 1,000 lbs. live weight	...	...	...	...	...	138.4	134.2	101.7	105.2
Remarks and Awards	...	...	...	...	...	1st Prize.	2nd Prize.	Highly Commended.	Reserve.

CLASS 23.—GUERNSEY COW (BORN ON OR PREVIOUS TO 1ST AUGUST, 1928)—
Continued.

CLASS 24.—GUERNSEY COW, ENTERED
IN OR ACCEPTED FOR THE HERD BOOK.
BORN AFTER 1ST AUGUST, 1928, AND
WHICH HAS PRODUCED TWO OR MORE
CALVES.

Number Name	...	...	...	...	...	249 Queen of North Valley.	251 Princess 7th of the Belles.	253 France's Queen 2nd of Groignet.	254 Herriard Sweet Girl.
Born	...	...	...	...	...	July 29, 1923. 1,120 June 26. 114	Oct. 30, 1921. 1,108 July 16. 94	Aug. 20, 1920. 1,052 June 3. 137	Apr. 24, 1920. 1,004 Sept. 18. 80
Live weight, in lbs.	...	...	...	...	...	Morn. Aft. Even. 15.9 15.5 16.1	Morn. Aft. Even. 18.3 14.7 14.7	Morn. Aft. Even. 11.8 11.2 11.5	Morn. Aft. Even. 14.1 15.0 12.7
Last Calved	...	...	...	...	...	16.1 15.5 15.2	13.2 13.3 11.6	11.6 11.2 12.3	12.2 12.5 12.7
Days since Calving	...	...	...	...	...	32.0 31.0 31.3	31.5 30.0 26.3	23.4 22.4 23.8	26.3 27.5 25.4
Weight of Milk, 1st day	...	...	...	...	...	16.0 15.5 15.65	15.75 15.0 13.15	11.7 11.2 11.9	13.15 13.75 12.7
Weight of Milk, 2nd day	...	...	...	...	...	5.63 5.21 4.99	4.78 5.10 3.43	4.57 4.48 3.58	4.85 6.02 5.18
Percentage of Fat	...	...	...	...	...	8.81 8.01 8.71	8.76 8.76 8.65	9.27 9.18 9.18	9.33 9.62 9.50
Composition of Solids other than Fat	...	...	...	...	...	14.14 14.12 13.70	13.54 13.86 12.08	13.84 13.66 12.76	14.18 15.64 14.68
the Milk. Total Solids	...	...	...	...	...	0.901 0.808 0.781	0.753 0.765 0.451	0.535 0.502 0.420	0.688 0.828 0.658
Actual weight of Fat, in lbs.	...	...	...	...	...	1.41 1.38 1.36	1.38 1.31 1.14	1.08 1.03 1.09	1.23 1.32 1.21
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	47.15 49.30 46.60	43.90 39.38 15.32	34.80 29.26 12.80	39.60 42.48 15.04
For weight of Milk (lbs.)	...	...	...	...	...	113.55	98.60	76.86	97.12
For weight of Fat (lbs. x 20)	...	...	...	...	...	113.55	98.60	76.86	97.12
For weight of Solids other than Fat (lbs. x 4)	...	...	...	...	...	7.4	5.4	9.7	—
Total Points for Milk	...	...	...	...	...	120.95	104.00	86.56	97.12
Deductions	...	...	...	...	...	101.4	89.0	73.1	96.7
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	7.4	5.4	9.7	—
Points for time since Calving	...	...	...	...	...	108.8	94.4	82.8	96.7
TOTAL POINTS GAINED	...	...	...	...	...	3rd Prize.	Highly Commended.	Highly Commended.	Reserve.
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	...	...	...	...
Points for time since Calving	...	...	...	...	...	...	...	...	...
Total Points per 1,000 lbs. live weight	...	...	...	...	...	...	...	...	...
Remarks and Awards	...	...	...	...	...	...	...	...	...

CLASS 24.—GUERNSEY COW (BORN AFTER 1ST AUGUST, 1928)—Continued.

Number Name	...	...	...	...	...	255 Eswelle Eleanor.	256 Eswelle Heartsease 3rd.	258 Norsbury May Belle.	259 Calehill Primrose.
Born	...	...	...	...	...	Sept. 14, 1930. 872 Aug. 22. 57	Jan. 22, 1930. 1,008 Aug. 26. 53	Oct. 24, 1929. 1,198 Aug. 12. 67	Dec. 7, 1928. 964 June 28. 112
Live weight, in lbs.	...	...	...	...	...	Morn. Aft. Even. 17.6 14.2 13.6 12.4 10.9 11.0	Morn. Aft. Even. 16.2 14.3 13.6 12.9 12.4 12.1	Morn. Aft. Even. 17.3 19.1 18.0 16.4 16.6 17.0	Morn. Aft. Even. 12.3 11.4 12.7 11.1 11.8 11.9
Last Calved	...	...	...	...	...	...	...	...	...
Days since Calving	...	...	...	...	...	...	...	...	...
Weight of Milk, 1st day	...	...	...	...	...	...	...	...	...
Weight of Milk, 2nd day	...	...	...	...	...	...	...	...	...
Total	...	...	...	...	...	30.0 25.1 24.6	29.1 26.7 25.7	33.7 35.7 35.0	29.4 23.2 24.6
Average	...	...	...	...	...	15.0 12.55 12.3	14.55 13.35 12.85	16.85 17.85 17.5	11.7 11.6 12.3
Percentage of Fat	...	...	...	...	...	3.83 5.35 5.02	4.28 4.23 4.29	4.25 5.35 6.20	5.32 6.32 4.28
Composition of the Milk.	...	...	...	...	...	9.13 9.23 9.34	8.72 8.98 8.59	9.39 9.15 9.24	9.20 9.32 9.40
Total Solids	...	...	...	...	...	12.96 14.58 15.20	13.00 13.16 12.88	13.64 14.50 15.50	14.42 15.64 13.68
Actual weight of Fat, in lbs.	...	...	...	...	...	0.375 0.671 0.728	0.623 0.565 0.551	0.716 0.855 1.096	0.611 0.733 0.526
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	1.37 1.16 1.15	1.27 1.19 1.10	1.58 1.63 1.62	1.08 1.08 1.16
Points—	...	...	...	...	...	...	...	...	...
For weight of Milk (lbs.)	...	...	...	...	...	39.85	40.75	52.90	35.40
For weight of Fat (lbs. × 20)	...	...	...	...	...	39.48	34.78	55.31	37.50
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	14.72	14.24	19.32	19.28
Total Points for Milk	...	...	...	...	...	94.05	89.77	126.86	86.28
Deductions	...	...	...	...	...	—	—	—	—
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	94.05	89.77	126.86	86.28
Points for time since Calving	...	...	...	...	...	1.7	1.3	2.7	7.2
TOTAL POINTS GAINED	...	...	...	...	...	95.75	91.07	129.56	93.48
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	107.9	89.1	105.9	89.5
Points for time since Calving	...	...	...	...	...	1.7	1.3	2.7	7.2
Total Points per 1,000 lbs. live weight	...	...	...	...	...	109.6	90.4	108.6	96.7
Remarks and Awards	...	...	...	...	...	Highly Commended.	Highly Commended.	1st Prize.	Highly Commended.

CLASS 24.—GUERNSEY COW (BORN AFTER 1ST AUGUST, 1928)—Continued.

Number Name	...	...	...	...	...	...	...	261 Lenore's Polly of Cote Grange.	262 Princess May des Landes Farn.	263 Lily of Pothill.
Born	...	...	...	...	...	...	...	May 6, 1930.	Oct. 14, 1929.	June 5, 1929.
Live weight, in lbs.	...	...	...	...	...	...	...	913	959	959
Last Calved	...	...	...	...	...	...	...	Sept. 20.	Sept. 5.	Aug. 24.
Days since Calving	...	...	...	...	...	...	...	28	43	55
Weight of Milk, 1st day	...	...	...	...	...	...	...	Morn.	Morn.	Morn.
Weight of Milk, 2nd day	...	...	...	...	...	...	...	Aft.	Aft.	Aft.
Total	...	...	...	...	...	...	...	19.1	18.1	9.1
Average	...	...	...	...	...	...	...	18.6	17.3	14.9
Percentage { Fat ...	...	...	...	...	...	...	...	37.7	35.4	13.1
Composition of { Solids other than Fat	...	...	...	...	...	...	...	37.1	31.2	14.7
the Milk. { Total Solids ...	...	...	...	...	...	...	...	38.0	31.8	10.7
Actual weight of Fat, in lbs.	...	...	...	...	...	...	...	Even.	Even.	Even.
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	...	...	17.8	15.1	10.7
Points—	...	...	...	...	...	...	...	35.4	31.8	21.4
For weight of Milk (lbs.)	...	...	...	...	...	...	...	17.7	15.0	10.7
For weight of Fat (lbs. × 20)	...	...	...	...	...	...	...	3.45	4.07	3.58
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	...	...	9.09	9.48	8.84
Total Points for Milk	...	...	...	...	...	...	...	12.44	12.66	12.70
Deductions ...	...	...	...	...	...	...	...	0.631	0.563	0.408
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	...	...	1.71	1.68	1.00
Points for time since Calving	...	...	...	...	...	...	...	56.40	49.20	36.60
TOTAL POINTS GAINED	...	...	...	...	...	...	...	40.50	38.12	20.42
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	...	...	20.96	18.44	13.08
Points for time since Calving ...	...	...	...	...	...	...	...	117.86	105.76	77.10
Total Points per 1,000 lbs. live weight	...	...	...	...	...	...	...	117.86	105.76	77.10
Remarks and Awards	...	...	...	...	...	...	...	117.86	106.06	78.60
	...	...	...	...	...	...	...	129.1	106.6	80.4
	...	...	...	...	...	...	...	129.1	106.9	81.9
	...	...	...	...	...	...	...	2nd Prize.	3rd Prize.	Highly Commended.

CLASS 25.—GUERNSEY HEIFER, ENTERED IN OR ELIGIBLE FOR THE HERD BOOK, AND WHICH HAS PRODUCED HER FIRST AND ONLY CALF AT OR UNDER THE AGE OF TWO YEARS AND NINE MONTHS.

Number Name	265 Dene Starette 10th.	266 Charlotte of Sons Les Houques.	267 Hartwell Violet 2nd.	268 Lockinge Duchess 6th.
Born	June 16, 1931. 832	Oct. 19, 1930. 813	June 26, 1931. 804	Mar. 27, 1931. 977
Live weight, in lbs.	Sept. 22, '26	Jan. 12, 279	Aug. 30, 49	Aug. 17, 62
Last Calved				
Days since Calving				
Weight of Milk, 1st day	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Weight of Milk, 2nd day	8.9 9.0 9.3 8.2 8.0 5.8	11.5 10.3 11.3 11.9 12.1 11.9	7.2 9.0 9.0 7.2 8.1 8.1	12.6 10.7 12.6 11.9 10.7 11.7
Total	17.1 17.0 15.1	23.4 22.4 23.2	14.4 17.1 17.1	24.5 21.4 24.3
Average	8.55 8.5 7.55	11.7 11.2 11.6	7.2 8.55 8.55	12.25 10.7 12.15
Percentage { Fat ... Composition of { Solids other than Fat ... and Milk. { Total Solids ... Actual weight of Fat, in lbs. ... Actual weight of Solids, other than Fat, in lbs. ... Points	3.77 4.14 6.48 9.59 9.62 9.16 18.36 13.76 15.64 0.322 0.352 0.489 0.82 0.82 0.69	3.98 5.18 5.57 9.22 9.10 9.65 13.20 14.28 15.22 0.466 0.580 0.646 1.08 1.02 1.12	4.46 5.24 5.58 9.68 9.24 9.50 14.14 14.48 15.08 0.321 0.448 0.477 0.70 0.79 0.81	4.51 8.55 5.35 9.51 9.43 9.59 14.02 12.08 14.94 0.552 0.380 0.650 1.16 1.01 1.17
For weight of Milk (lbs.)	24.60	34.50	24.30	35.10
For weight of Fat (lbs. \times 20)	23.26	33.84	24.92	31.64
For weight of Solids other than Fat (lbs. \times 4)	9.32	12.88	9.20	13.36
Total Points for Milk	57.18	81.22	58.42	80.10
Deductions ...	—	—	—	—
TOTAL POINTS GAINED FOR MILK	57.18	81.22	58.42	80.10
Points for time since Calving	—	12.0	0.9	2.2
TOTAL POINTS GAINED	57.18	93.22	59.32	82.30
Points gained for Milk per 1,000 lbs. live weight	68.7	99.9	72.7	82.0
Points for time since Calving ...	—	12.0	0.9	2.2
Total Points per 1,000 lbs. live weight ...	68.7	111.9	73.6	84.2
Remarks and Awards ...		1st Prize.		2nd Prize.

CLASS 25.—GUERNSEY HEIFER—Continued.

Number Name	...	...	...	...	...	...
Born ... Live weight, in lbs. Last Calved ... Days since Calving	...	...	...	...	...	...
Weight of Milk, 1st day Weight of Milk, 2nd day	...	...	...	...	...	...
Total	...	...	...	...	...	...
Average	...	...	...	...	...	...
Percentage Fat ... Composition of Solids other than Fat ... Total Solids ... Actual weight of Fat, in lbs. ... Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	...
Points— For weight of Milk (lbs.) ... For weight of Fat (lbs. × .20) ... For weight of Solids other than Fat (lbs. × .4)	...	...	...	...	...	...
Total Points for Milk Deductions	...	...	...	...	...	...
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	...
Points for time since Calving	...	...	...	...	...	...
TOTAL POINTS GAINED	...	...	...	...	...	...
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	...
Points for time since Calving	...	...	...	...	...	...
Total Points per 1,000 lbs. live weight	...	...	...	...	...	...
Remarks and Awards	...	...	...	...	...	...

CLASS 26.—JERSEY COW, ENGLISH OR ISLAND BRED, ENTERED IN OR ACCEPTED FOR THE HERD BOOK. BORN ON OR PREVIOUS TO 1ST AUGUST, 1928. COWS ENTERED IN THIS CLASS MUST HAVE YIELDED A MINIMUM OF 8,000 LBS. AT FIVE YEARS OLD OR OVER, OR 6,000 LBS. AT UNDER FIVE YEARS OLD, EITHER DURING A LACTATION PERIOD OF 45 WEEKS, OR FOR ANY ONE COMPLETED YEAR OF A RECOGNISED MILK RECORDING SOCIETY.

Number Name	272 Margawse.	273 Wotton Peasecad.	274 Wotton Early Minx.	275 Sir Laurence's Beauty Sleep.
Born	Aug. 2, 1926. 876	June 5, 1926. 1,004	Jan. 14, 1928. 1,028	May 30, 1928. 1,023
Live weight, in lbs.	May 23. 148	Mar. 2. 230	May 25. 146	Aug. 2. 77
Last Calved	...	...	...	...
Days since Calving	...	...	...	...
Weight of Milk, 1st day	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Weight of Milk, 2nd day	14.0 11.6 12.8	15.6 15.5 17.0	12.4 12.3 13.9	17.3 17.0 15.8
	11.1 10.4 11.4	15.9 15.3 17.0	14.2 13.2 13.9	3.2 13.4 13.3
Total	25.1 22.0 24.2	31.5 30.8 33.0	27.2 27.6 26.8	20.5 30.4 29.1
Average	12.55 11.0 12.1	15.75 15.4 10.5	13.0 13.8 13.4	10.25 15.2 14.55
Percentage (Fat ...)	5.49 6.63 6.71	4.35 5.67 5.18	5.78 8.66 5.59	4.20 5.80 5.94
Composition of Solids other than Fat	9.39 9.69 9.63	9.71 9.93 9.88	8.68 9.22 9.31	9.28 8.90 9.08
the Milk. (Total Solids ...)	14.88 16.32 16.34	14.06 15.60 15.06	14.46 17.88 14.90	13.48 14.70 15.02
Actual weight of Fat in lbs.	0.989 0.729 0.812	0.686 0.873 0.835	0.786 1.195 0.749	0.431 0.882 0.864
Actual weight of Solids other than Fat, in lbs.	1.18 1.07 1.17	1.53 1.53 1.63	1.18 1.27 1.25	0.95 1.35 1.32
Points—	25.65	47.65	40.80	40.00
For weight of Milk (lbs.)	44.60	45.20	54.60	43.54
For weight of Fat (lbs.)	13.68	18.70	14.80	14.48
For weight of Solids other than Fat (lbs.)	4	—	—	—
Total Points for Milk	93.93	114.67	110.20	98.02
Deductions ...	...	...	...	...
TOTAL POINTS GAINED FOR MILK	93.93	114.67	110.20	98.02
Points for time since Calving	10.8	12.0	10.6	3.7
TOTAL POINTS GAINED	104.73	126.67	120.80	101.72
Points gained for Milk per 1,000 lbs. live weight	107.2	114.2	107.2	95.8
Points for time since Calving	10.8	12.0	10.6	3.7
Total Points per 1,000 lbs. live weight	118.0	126.2	117.8	99.5
Remarks and Awards	Highly Commended.	1st Prize.	2nd Prize.	Highly Commended.

CLASS 26.—JERSEY COW, ENGLISH OR ISLAND BRED (BORN ON OR PREVIOUS TO 1ST AUGUST, 1928—Continued.)

Number Name	...	...	...	...	...	276 Caupéa's Gift.	277 Kentwins Cynthia.	279 Eastwood Chandelier.	280 Lady Clara.
Born	...	...	...	...	...	Apr. 17, 1927. 483	Mar. 18, 1926. 920	June 15, 1927. 904	Oct. 8, 1925. 1,044
Live weight, in lbs.	...	...	...	...	...	June 9. 151	Sept. 3. 45	Aug. 31. 48	Sept. 15. 33
Last Calved	...	...	...	...	...	Morn. Aft. Even. 15.2 14.4 13.8	Morn. Aft. Even. 12.3 20.0 16.3	Morn. Aft. Even. 15.2 15.3 15.7	Morn. Aft. Even. 18.3 17.6 17.1
Days since Calving	...	...	...	...	...	10.8 2.1 —	15.7 16.6 14.4	15.5 15.0 12.4	18.0 18.8 16.2
Weight of Milk, 1st day	...	...	...	...	...	26.0 16.5 —	28.0 36.6 30.7	30.7 30.3 28.1	36.3 36.4 33.3
Weight of Milk, 2nd day	...	...	...	...	...	13.0 8.25 —	14.0 18.3 15.35	15.35 15.15 14.05	18.15 18.2 16.65
Total	...	...	...	...	...	3.57 5.32 4.17	8.17 6.10 7.52	4.91 5.74 5.42	3.46 4.45 3.53
Average	...	...	...	...	...	8.61 8.78 9.15	9.27 8.93 9.24	9.57 9.46 9.62	9.60 9.13 9.09
Percentage (Fat ... Composition of Solids other than Fat	...	...	...	...	...	12.18 14.10 13.32	12.44 15.12 16.76	14.48 15.20 15.04	13.06 13.58 12.62
the Milk. Total Solids ...	...	...	...	...	...	0.464 0.439 —	0.444 1.133 1.154	0.754 0.870 0.762	0.628 0.810 0.588
Actual weight of Fat in lbs.	...	...	...	...	...	1.12 0.72 —	1.30 1.63 1.42	1.47 1.43 1.35	1.74 1.66 1.51
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	—	47.05 54.62 54.82	44.55 47.72 47.00	53.00 40.52 49.64
Points	...	...	...	...	...	—	119.67	100.27	113.16
For weight of Milk (lbs.)	...	...	...	...	...	—	—	—	—
For weight of Fat (lbs. × 20)	...	...	...	...	...	—	—	—	—
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	—	—	—	—
Total Points for Milk	...	...	...	...	...	—	119.67	100.27	113.16
Deductions ...	...	...	...	...	...	—	0.5	0.8	—
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	—	120.17	110.07	113.16
Points for time since Calving	...	...	...	...	...	—	130.1 0.5	120.9 0.8	108.4
TOTAL POINTS GAINED	...	...	...	...	...	—	130.6	121.7	108.4
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	—	—	—	—
Points for time since Calving ...	...	...	...	...	...	—	—	—	—
Total Points per 1,000 lbs. live weight	...	...	...	...	...	—	—	—	—
Remarks and Awards	...	...	...	...	...	Sick—withdrawn.	3rd Prize.	Highly Commended.	Reserve.

Number Name	283 Watton Pride of the Air.	284 Sir Laurence's Inogen.	288 Easter of La Place.	289 Seymour Rose Blossom.
Born	Apr. 3, 1929. 1,016	Feb. 19, 1929. 874	Mar. 31, 1929. 900	Jan. 3, 1930. 844
Live weight, in lbs.	1,016	May 17. 154	June 21. 119	Aug. 8. 71
Last Calved	Sept. 20, 19			
Days since Calving				
Weight of Milk, 1st day	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Weight of Milk, 2nd day	15.9 18.5 18.0	15.2 13.4 14.0	15.2 13.2 14.4	13.8 14.1 13.0
	17.8 19.1 18.1	12.3 12.1 10.8	14.7 13.7 12.2	13.8 13.9 13.2
Total	33.7 37.6 36.1	27.5 25.5 24.2	29.9 26.9 26.6	27.6 28.0 26.2
Average	16.85 18.8 18.05	13.75 12.75 12.1	14.95 13.45 13.3	13.8 14.0 13.1
Percentage { Fat ...	4.11 6.61 5.52	5.30 6.07 5.95	4.97 5.32 5.13	4.53 5.49 5.14
Composition of { Solids other than Fat	9.73 9.61 10.02	9.60 9.41 9.61	9.41 9.30 9.57	9.75 9.71 9.82
the Milk. { Total Solids ...	13.84 16.22 15.54	14.90 15.48 15.56	14.38 14.62 14.70	14.28 15.20 14.96
Actual weight of Fat in lbs.	0.603 1.243 0.906	0.720 0.774 0.720	0.743 0.716 0.682	0.625 0.760 0.673
Actual weight of Solids other than Fat, in lbs.	1.64 1.81 1.81	1.32 1.20 1.16	1.41 1.25 1.27	1.35 1.36 1.29
Points—				
For weight of Milk (lbs.)	53.70	38.60	41.70	40.90
For weight of Fat (lbs. $\times 20$)	58.64	44.40	42.82	41.34
For weight of Solids other than Fat (lbs. $\times 4$)	21.04	14.72	15.72	16.00
Total Points for Milk	133.38	97.78	100.24	98.24
Deductions ...	—	—	—	—
TOTAL POINTS GAINED FOR MILK	133.38	97.78	100.24	98.24
Points for time since Calving	—	11.4	7.9	3.1
TOTAL POINTS GAINED	133.38	109.18	108.14	101.34
Points gained for Milk per 1,000 lbs. live weight	131.3	111.9	111.4	116.4
Points for time since Calving ...	—	11.4	7.9	3.1
Total Points per 1,000 lbs. live weight	131.3	123.3	119.3	119.5
Remarks and Awards	2nd Prize.	Highly Commended.	Highly Commended.	Highly Commended.

CLASS 27.—JERSEY COW, ENGLISH OR ISLAND BRED. BORN AFTER 1ST AUGUST, 1928—Continued.

Number Name	...	...	...	...	...	290 Jester's Beauty.	291 White Hill Boutilliere's Dairylike.	293 Dalby Regal Meg.	294 Dalby Georgiana Wideawake.
Born	...	...	...	...	...	Feb. 19, 1929. 910	Sept. 15, 1928. 860	Aug. 2, 1928. 874	Aug. 16, 1928. 968
Live weight, in lbs.	...	...	...	...	...	Sept. 6, 42	Sept. 15, 33	Aug. 20, 59	July 1, 109
Last Calved	...	...	...	...	...	...	...	...	...
Days since Calving	...	...	...	...	...	...	...	...	...
Weight of Milk, 1st day	...	...	...	...	...	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Weight of Milk, 2nd day	...	...	...	...	...	16.1 15.6 15.1	19.8 21.3 20.5	14.4 15.1 15.2	12.9 13.3 14.2
	...	...	...	...	...	14.8 14.4 14.0	18.1 20.7 19.2	13.8 14.0 14.4	10.6 14.3 13.3
Total	...	...	...	...	...	30.9 30.0 29.1	37.9 42.0 39.7	28.2 29.1 29.6	23.5 27.6 27.5
Average	...	...	...	...	...	15.45 15.0 14.55	18.95 21.0 19.85	14.1 14.55 14.8	11.75 13.8 13.75
Percentage (Fat ...)	...	...	...	...	...	3.72 4.41 4.66	3.61 4.73 4.54	5.24 6.18 5.11	4.67 5.84 6.28
Composition of Solids other than Fat	...	...	...	...	...	9.70 9.47 9.32	9.81 9.31 9.20	8.92 8.80 9.13	9.35 9.38 9.36
the Milk. Total Solids	...	...	...	...	...	13.42 13.88 13.98	13.42 14.04 13.74	14.16 14.98 14.24	14.02 15.22 15.64
Actual weight of Fat, in lbs.	...	...	...	...	...	0.575 0.602 0.678	0.684 0.993 0.901	0.739 0.899 0.756	0.549 0.806 0.804
Actual weight of Solids, other than Fat, in lbs.	...	...	...	...	...	1.50 1.42 1.36	1.86 1.96 1.83	1.26 1.28 1.35	1.10 1.29 1.29
Points—	...	...	...	...	...	...	...	...	...
For weight of Milk (lbs.)	...	...	...	...	...	45.00	59.80	43.45	39.80
For weight of Fat (lbs. × 20)	...	...	...	...	...	38.30	51.56	47.88	44.38
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	17.12	22.00	15.56	14.72
Total Points for Milk	...	...	...	...	...	100.42	133.96	106.89	98.40
Deductions	...	...	...	...	...	—	—	—	—
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	100.42	133.96	106.89	98.40
Points for time since Calving	...	...	...	...	...	0.2	—	1.9	6.9
TOTAL POINTS GAINED	...	...	...	...	...	100.62	133.96	108.79	105.30
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	110.4	155.8	122.3	101.7
Points for time since Calving	...	...	...	...	...	0.2	—	1.9	6.9
Total Points per 1,000 lbs. live weight	...	...	...	...	...	110.6	155.8	124.2	108.6
Remarks and Awards	...	...	...	...	...	Highly Commended.	1st Prize.	Highly Commended.	Highly Commended.

CLASS 27.—JERSEY COW, ENGLISH OR ISLAND BRED. BORN AFTER 1ST AUGUST, 1928.—Continued.

Number	...	...	...	...	...	296 Bolhaves Dusty's Flapper.	297 Angelina's Pride 4th.	298 Wotton Bella Donna.	300 Postgirl 3rd.
Born	...	...	...	...	...	May 13, 1930. 853	Nov. 26, 1928. 850	June 25, 1930. 902	Apr. 14, 1930. 848
Live weight, in lbs.	...	...	...	...	...	June 9. 131	Sept. 15. 83	July 3. 107	Aug. 14. 65
Last Calved	...	...	...	...	...	...	...	...	...
Days since Calving	...	...	...	...	...	...	...	...	...
Weight of Milk, 1st day	...	...	...	...	...	Morn. Aft. Even. 18.1 16.6 17.7	Morn. Aft. Even. 12.1 14.0 13.3	Morn. Aft. Even. 13.2 22.6 23.2	Morn. Aft. Even. 14.7 18.2 19.7
Weight of Milk, 2nd day	...	...	...	...	...	18.7 17.0 18.1	12.2 16.1 15.7	13.1 16.7 16.7	14.7 19.6 15.2
Total	...	...	...	...	...	36.8 33.6 35.8	24.3 30.1 29.0	26.3 39.3 39.9	29.4 37.8 34.9
Average	...	...	...	...	...	18.4 16.8 17.9	12.15 15.05 14.5	13.15 19.65 19.95	14.7 18.9 17.45
Percentage of Fat	...	...	...	...	...	4.85 3.96 3.19	3.09 3.83 5.93	3.07 3.55 5.40	3.04 3.61 4.31
Composition of Milk, other than Fat	...	...	...	...	...	9.21 9.10 9.13	9.63 9.38 11.71	9.07 9.27 9.30	9.04 9.31 9.25
Total Solids	...	...	...	...	...	14.06 13.06 12.32	12.72 13.15 14.73	12.13 12.82 14.70	12.68 12.92 14.06
Actual weight of Fat, in lbs.	...	...	...	...	...	0.892 0.665 0.571	0.375 0.370 0.738	0.404 0.608 1.077	0.447 0.682 0.830
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	1.069 1.53 1.63	1.17 1.41 1.38	1.20 1.82 1.86	1.42 1.76 1.61
Points	...	...	...	...	...	53.10 42.56 19.40	41.70 34.18 15.84	52.75 43.58 19.52	51.05 39.36 19.10
For weight of Milk (lbs.)	...	...	...	...	...	...	...	...	...
For weight of Fat (lbs. x 20)	...	...	...	...	...	...	...	...	...
For weight of Solids other than Fat (lbs. x 4)	...	...	...	...	...	...	...	...	...
Total Points for Milk	...	...	...	...	...	115.06	91.72	115.85	109.57
Deductions	...	...	...	...	...	—	—	—	—
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	115.06	91.72	115.85	109.57
Points for time since Calving	...	...	...	...	...	9.1	—	6.7	2.5
TOTAL POINTS GAINED	...	...	...	...	...	124.16	91.72	122.55	112.07
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	134.9	107.9	128.4	129.2
Points for time since Calving	...	...	...	...	...	9.1	—	6.7	2.5
Total Points per 1,000 lbs. live weight	...	...	...	...	...	144.0	107.9	135.1	131.7
Remarks and Awards	...	...	...	...	...	3rd Prize.	Highly Commended.	4th Prize.	Reserve.

CLASS 28.—JERSEY HEIFER, ENGLISH OR ISLAND BRED. ENTERED IN OR ELIGIBLE FOR THE HERD BOOK, AND WHICH HAS PRODUCED HER FIRST AND ONLY CALF AT OR UNDER THE AGE OF 2½ YEARS.

Number	...	...	...	...	...	301 Wolvers Bess.	303 Aldenhams Rosy Chance.	305 Foxbury Valentine 2nd.	306 Mythilda's Belle 7th.
Name	...	...	...	...	...	...	...	...	...
Born	...	...	...	...	...	June 21, 1931.	Sept. 20, 1931.	June 11, 1931.	Apr. 10, 1931.
Live weight, in lbs.	...	...	...	...	...	702	776	797	743
Last Calved	...	...	...	...	...	Sept. 21.	Sept. 12.	Sept. 17.	Aug. 14.
Days since Calving	...	...	...	...	...	27	36	31	65
Weight of Milk, 1st day	...	...	...	...	...	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Weight of Milk, 2nd day	...	...	...	...	...	14.4 14.0 14.0	10.2 8.9 10.1	18.4 16.5 14.7	7.7 8.6 6.8
	...	...	...	...	...	13.8 13.8 13.9	10.7 10.4 10.5	14.6 17.1 16.1	8.0 9.9 7.4
Total	...	...	...	...	...	28.2 27.8 27.9	20.9 10.3 20.6	33.0 33.6 30.8	15.7 18.5 14.2
Average	...	...	...	...	...	14.1 13.9 13.95	10.45 9.65 10.3	16.5 16.8 15.4	7.85 9.25 7.1
Percentage	...	...	...	...	...	4.35 4.67 4.83	4.47 4.61 4.28	4.05 5.51 5.93	5.76 6.35 6.00
Composition of	...	...	...	...	...	9.41 9.25 9.39	9.99 9.39 9.84	9.23 9.41 9.73	9.94 9.61 9.62
the Milk.	...	...	...	...	...	13.76 13.02 14.22	14.46 14.00 14.12	13.28 14.92 15.66	13.70 13.96 15.62
Actual weight of Fat, in lbs.	...	...	...	...	...	0.613 0.649 0.674	0.467 0.445 0.441	0.668 0.926 0.913	0.452 0.587 0.426
Actual weight of Solids, other than Fat, in lbs.	...	...	...	...	...	1.33 1.29 1.31	1.04 0.91 1.01	1.52 1.58 1.50	0.78 0.89 0.68
Points—	...	...	...	...	...	41.95	30.40	48.70	24.20
For weight of Milk (lbs.)	...	...	...	...	...	38.72	27.06	50.14	29.30
For weight of Fat (lbs. x 20)	...	...	...	...	...	15.72	11.84	18.40	9.40
For weight of Solids other than Fat (lbs. x 4)	...	...	...	...	...	...	...	...	...
Total Points for Milk	...	...	...	...	...	96.30	69.30	117.24	62.90
Deductions	...	...	...	...	...	—	—	—	—
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	96.30	69.30	117.24	62.90
Points for time since Calving	...	...	...	...	...	—	—	—	2.5
TOTAL POINTS GAINED	...	...	...	...	...	96.30	69.30	117.24	65.40
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	121.7	89.3	147.1	84.7
Points for time since Calving	...	...	...	...	...	—	—	—	2.5
Total Points per 1,000 lbs. live weight	...	...	...	...	...	121.7	89.3	147.1	87.2
Remarks and Awards	...	...	...	...	...	3rd Prize.	Highly Commended.	1st Prize.	Highly Commended.

CLASS 28.—JERSEY HEIFER, ENGLISH OR ISLAND BRED—Continued.

Number Name	...	...	...	...	...	307 Gamboe Betty of Mimms.	308 White Hill Owllet's Soda Water.	309 Everdon Bowlina's Flora.	310 Orange Blossom.
Born	...	...	...	...	...	Sept. 15, 1931. 880	Aug. 9, 1931. 608	June 19, 1931. 812	Mar. 28, 1931. 896
Live weight, in lbs.	...	...	...	...	...	Sept. 30. 18	Sept. 10. 38	Sept. 24. 24	Sept. 20. 28
Last Calved	...	...	...	...	...
Days since Calving	...	...	...	...	...
Weight of Milk, 1st day	...	...	...	...	...	Morn. Aft. Even. 8.6 9.4 8.4	Morn. Aft. Even. 10.2 10.4 10.3	Morn. Aft. Even. 10.3 12.0 12.4	Morn. Aft. Even. 13.5 13.7 12.5
Weight of Milk, 2nd day	...	...	...	...	...	7.8 9.1 8.2	10.8 10.1 9.8	11.7 10.9 11.2	13.2 13.8 12.1
Total	...	...	...	...	...	16.4 18.5 16.6	21.0 20.5 20.1	22.0 22.9 23.6	26.7 27.5 24.6
Average	...	...	...	...	...	8.2 9.25 8.3	10.5 10.25 10.05	11.0 11.45 11.8	13.35 13.75 12.3
Percentage	...	...	...	...	...	3.47 4.53 5.18	4.30 5.90 4.97	4.51 4.17 6.20	4.99 5.32 5.27
Composition of	...	...	...	...	...	9.73 9.65 9.60	9.38 9.60 9.41	9.51 9.35 9.76	9.69 9.72 9.71
the Milk.	...	...	...	...	...	13.20 14.18 14.78	13.68 15.50 14.38	14.02 13.92 13.96	14.08 15.04 14.98
Actual weight of Fat, in lbs.	...	...	...	...	...	0.285 0.419 0.430	0.452 0.605 0.490	0.406 0.477 0.732	0.666 0.732 0.648
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	0.80 0.89 0.80	0.98 0.98 0.95	1.05 1.07 1.15	1.20 1.34 1.19
Points—	...	...	...	...	...
For weight of Milk (lbs.)	...	...	...	...	...	25.75	30.80	34.25	39.40
For weight of Fat (lbs. × 20)	...	...	...	...	...	22.68	31.12	34.10	40.92
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	9.96	11.61	13.08	15.28
Total Points for Milk	...	...	...	...	...	58.39	73.56	81.43	95.00
Deductions	...	...	...	...	...	—	—	—	—
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	58.39	73.56	81.43	95.00
Points for time since Calving	...	...	...	...	...	—	—	—	—
TOTAL POINTS GAINED	...	...	...	...	...	58.39	73.56	81.43	95.00
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	60.4	121.0	100.3	114.4
Points for time since Calving	...	...	...	...	...	—	—	—	—
Total Points per 1,000 lbs. live weight	...	...	...	...	...	60.4	121.0	100.3	114.4
Remarks and Awards	...	...	...	...	...	Highly Commended.	Highly Commended.	Highly Commended.	4th Prize.

CLASS 28.—JERSEY HEIFER, ENGLISH OR ISLAND BRED—Continued.

Number Name	...	...	...	...	...	...	312 Dalby Pioneer's Beau.	313 Postgirl 4th.	314 Brown Sugar.
Born	...	...	...	...	...	...	Sept. 12, 1931. 752	Apr. 6, 1931. 804	Jan. 13, 1931. 798
Live weight, in lbs.	...	...	...	...	...	...	Aug. 26. 53	June 7. 133	July 1. 109
Last Calved	...	...	...	...	...	...	...	...	...
Days since Calving	...	...	...	...	...	...	...	...	...
Weight of Milk, 1st day	...	...	...	...	...	...	Morn. Aft. Even. 9.2 9.0 9.0	Morn. Aft. Even. 13.4 11.5 8.7	Morn. Aft. Even. 8.7 12.9 11.7
Weight of Milk, 2nd day	...	...	...	...	...	...	8.8 9.9 10.0	8.2 8.1 9.0	6.5 12.5 10.7
Total	...	...	...	...	...	...	18.0 18.9 19.9	21.6 19.6 17.7	15.2 25.4 22.4
Average	...	...	...	...	...	...	9.0 9.45 9.95	10.8 9.8 8.85	7.6 12.7 11.2
Percentage { Fat ...	...	...	...	...	...	...	4.42 4.69 5.44	4.44 5.20 5.15	3.54 6.14 5.98
Composition of { Solids other than Fat ...	...	...	...	...	...	...	9.54 9.83 9.58	9.18 9.40 9.77	9.30 9.34 9.44
the Milk { Total Solids ...	...	...	...	...	...	...	13.96 14.52 15.02	13.62 14.60 14.92	12.84 15.48 15.42
Actual weight of Fat, in lbs.	...	...	...	...	...	...	0.398 0.443 0.541	0.480 0.510 0.456	0.269 0.780 0.670
Actual weight of Solids, other than Fat, in lbs.	...	...	...	...	...	...	0.86 0.93 0.95	0.99 0.92 0.86	0.71 1.19 1.06
Points—	...	...	...	...	...	...	...	...	...
For weight of Milk (lbs.)	...	...	...	...	...	...	28.40	29.45	31.50
For weight of Fat (lbs. × 20)	...	...	...	...	...	...	27.64	28.92	34.38
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	...	10.96	11.08	11.84
Total Points for Milk	...	...	...	...	...	...	67.00	69.45	77.72
Deductions ...	...	...	...	...	...	...	...	...	...
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	...	67.00	69.45	77.72
Points for time since Calving	...	...	...	...	...	...	1.3	9.3	6.9
TOTAL POINTS GAINED	...	...	...	...	...	...	68.30	78.75	84.62
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	...	89.1	86.4	97.4
Points for time since Calving	...	...	...	...	...	...	1.3	9.3	6.9
Total Points per 1,000 lbs. live weight	...	...	...	...	...	...	90.4	95.7	104.3
Remarks and Awards	...	...	...	...	...	...	Highly Commended.	Highly Commended.	Highly Commended.

CLASS 31.—DEXTER COW, ENTERED IN OR ACCEPTED FOR THE HERD BOOK. COWS ENTERED IN THIS CLASS MUST HAVE YIELDED A MINIMUM OF 5,000 LBS. AT FIVE YEARS OLD OR OVER, OR 3,750 LBS. AT UNDER FIVE YEARS OLD, EITHER DURING A LACTATION PERIOD OF 45 WEEKS OR FOR ANY ONE COMPLETED YEAR OF A RECOGNISED MILK RECORDING SOCIETY.

Number Name	318 Braxted Wendy.	319 Cophthorne Clove.	320 Starlight of Grinstead.	321 Gaynes Gay.
Born	June 28, 1928. 701	Nov. 9, 1923. 686	July 21, 1924. 846	Mar. 14, 1925. 726
Live weight, in lbs.	701	Aug. 31. 48	Sept. 7. 41	Mar. 8. 168
Last Calved	July 31. 79			
Days since Calving				
Weight of Milk, 1st day	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Weight of Milk, 2nd day	7.1 8.1 11.4	12.6 8.7 8.5	13.4 7.1 10.9	8.0 8.5 8.2
	12.3 10.0 9.9	9.9 9.5 9.4	12.1 11.4 10.9	8.1 7.7 8.0
Total	19.4 18.1 21.3	22.5 18.2 17.9	25.5 18.5 21.8	16.7 10.2 17.1
Average	9.7 9.05 10.65	11.25 9.1 8.95	12.75 9.25 10.9	8.35 8.1 8.55
Percentage	2.01 2.82 3.79	3.96 4.12 4.30	2.61 2.55 4.05	3.92 4.13 4.20
Composition of	8.99 8.88 8.57	9.36 9.04 8.70	9.13 9.25 8.84	9.00 8.77 8.77
the Milk.	11.00 11.70 12.36	13.32 13.16 13.00	11.73 11.55 12.04	12.92 12.90 13.06
Actual weight of Fat, in lbs.	0.195 0.255 0.404	0.446 0.375 0.385	0.333 0.286 0.441	0.327 0.335 0.397
Actual weight of Solids, other than Fat, in lbs.	0.87 0.80 0.91	1.05 0.82 0.78	1.10 0.86 0.97	0.75 0.71 0.75
Points—				
For weight of Milk (lbs.)	20.40	29.30	32.90	25.00
For weight of Fat (lbs. × 20)	17.08	24.12	20.20	20.58
For weight of Solids other than Fat (lbs. × 4)	10.32	10.60	11.86	8.84
Total Points for Milk	56.80	64.02	65.06	54.42
Deductions	20.0	—	20.0	—
TOTAL POINTS GAINED FOR MILK	36.80	64.02	45.06	54.42
Points for time since Calving	3.9	0.8	0.1	12.0
TOTAL POINTS GAINED	40.70	64.82	45.16	66.42
Points gained for Milk per 1,000 lbs. live weight	52.5	93.3	53.3	75.0
Points for time since Calving	3.9	0.8	0.1	12.0
Total Points per 1,000 lbs. live weight	56.4	94.1	53.4	87.0
Remarks and Awards				

CLASS 31.—DEXTER COW—Continued.

Number Name	322			323			...
										Grinstead Hawk 5th.			Grinstead Duchess 1st.			
Born	...	...	...	...	...	...	...	...	...	June 12, 1928.			Apr. 29, 1928.		
Live weight, in lbs.	...	...	...	...	...	...	...	...	...	608			680		
Last Calved	...	...	...	...	...	...	...	...	...	May 10.			June 16.		
Days since Calving	...	...	...	...	...	...	...	...	...	161			124		
Weight of Milk, 1st day	...	...	...	...	...	...	...	...	...	Morn.	Alt.	Even.	Morn.	Alt.	Even.
										9.7	10.5	9.1	16.0	12.8	10.2	
Weight of Milk, 2nd day	...	...	...	...	...	...	...	...	...	9.6	8.6	9.5	6.9	16.8	9.9
Total	...	...	...	...	...	...	...	...	...	19.3	19.1	18.6	22.9	29.6	20.1
Average	...	...	...	...	...	...	...	...	...	9.65	9.55	9.3	11.45	14.8	10.05
Percentage { Fat ...	...	...	...	...	...	...	...	...	...	4.01	4.96	4.99	5.22	3.40	2.91
										9.41	9.18	8.91	9.36	8.84	8.71	
Composition of { Solids other than Fat	...	...	...	...	...	...	...	...	...	13.42	14.14	13.90	14.58	12.24	11.62
the Milk. { Total Solids ...	...	...	...	...	...	...	...	...	...	0.387	0.474	0.464	0.598	0.503	0.292
Actual weight of Fat, in lbs.	...	...	...	...	...	...	...	...	...	0.91	0.88	0.83	1.07	1.31	0.88
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	...	...	...	...
Points—	...	...	...	...	...	...	...	...	...
For weight of Milk (lbs.)	...	...	...	...	...	...	...	...	...	28.50		36.30			
For weight of Fat (lbs. \times 20)	...	...	...	...	...	...	...	...	...	26.50		27.86			
For weight of Solids other than Fat (lbs. \times 4)	...	...	...	...	...	...	...	...	...	10.48		13.04			
Total Points for Milk	...	...	...	...	...	...	...	...	...	65.48		77.20			
Deductions ...	...	...	...	...	...	...	...	...	...	—		10.0			
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	...	...	...	...	65.48		67.20			
Points for time since Calving	...	...	...	...	...	...	...	...	...	12.0		8.4			
TOTAL POINTS GAINED	...	...	...	...	...	...	...	...	...	77.48		75.60			
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	...	...	...	...	107.7		97.4			
Points for time since Calving	...	...	...	...	...	...	...	...	...	12.0		8.4			
Total Points per 1,000 lbs. live weight	...	...	...	...	...	...	...	...	...	119.7		105.8			
Remarks and Awards	...	...	...	...	...	...	...	...	...	1st Prize.		2nd Prize.			

CLASS 32.—DEXTER HEIFER, ENTERED IN OR ELIGIBLE FOR THE HERD BOOK. BORN ON OR AFTER 1ST AUGUST, 1930,
AND HAVING PRODUCED ONLY ONE CALF.

Number Name	324 Princess 2nd of Grinstead.	325 Grinstead Duchess 3rd.	326 Braxton Flag.	327 Ashtonhayes Glenade.
Born	Sept 12, 1931. 522	Apr. 21, 1931. 476	Sept. 13, 1931. 538	June 17, 1931. 470
Live weight, in lbs.	Aug. 11. 68	Aug. 18. 61	Sept. 8. 40	May 28. 143
Last Calved				
Days since Calving				
Weight of Milk, 1st day	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Weight of Milk, 2nd day	7.4 8.0 8.2	8.0 8.4 8.1	10.4 10.3 11.0	7.4 6.4 6.2
Total	16.8 15.8 15.7	16.2 16.6 15.9	20.7 20.8 20.7	13.7 12.9 12.9
Average	8.4 7.9 7.85	8.1 8.3 7.95	10.35 10.4 10.35	6.85 6.45 6.45
Percentage Fat	4.42 4.30 4.27	4.82 3.92 4.10	3.67 3.26 3.10	3.54 4.40 4.37
Composition of Solids other than Fat	9.12 9.32 9.03	9.48 8.68 8.71	9.25 8.96 8.78	9.22 9.30 9.39
Total Solids	13.54 13.32 13.40	14.30 12.60 12.90	12.92 12.22 11.88	12.76 13.70 13.76
Actual weight of Fat, in lbs.	0.371 0.340 0.343	0.390 0.325 0.333	0.380 0.339 0.321	0.242 0.284 0.282
Actual weight of Solids, other than Fat, in lbs.	0.77 0.71 0.71	0.77 0.72 0.69	0.96 0.93 0.91	0.63 0.60 0.61
Points—				
For weight of Milk (lbs.)	24.15	24.32	31.10	19.75
For weight of Fat (lbs. $\times 20$)	21.30	20.96	20.80	16.60
For weight of Solids other than Fat (lbs. $\times 4$)	8.76	8.72	11.20	7.36
Total Points for Milk	53.90	54.03	63.10	43.27
Deductions	—	—	—	—
Total Points GAINED FOR MILK	53.90	54.03	63.10	43.27
Points for time since Calving	2.8	2.1	—	10.3
TOTAL POINTS GAINED	56.79	56.13	63.10	53.57
Points gained for Milk per 1,000 lbs. live weight	103.4	113.5	117.3	92.1
Points for time since Calving	2.8	2.1	—	10.3
Total Points per 1,000 lbs. live weight	106.2	115.6	117.3	102.4
Remarks and Awards			1st Prize.	

THE "ROBERT MOND" CHALLENGE SHIELD AWARDS

By J. MACKINTOSH, O.B.E., N.D.A., N.D.D.

This trophy was presented by Mr. Robert Mond to the British Dairy Farmers' Association in 1919, with the object of encouraging breeders of dairy stock to judge bulls more by the production of their daughters than by the appearance of the bulls themselves.

At the same time a special prize of £10 was also presented by Mr. Mond for two cows or heifers, the progeny of one bull, exhibited at the Dairy Show and gaining the largest number of points above the standard of the classes in which they were exhibited. The entry of two animals for this special prize was taken as equivalent to an entry for the Challenge Shield, but in order to qualify for the latter the two daughters exhibited at the Dairy Show and two additional daughters must have given at least 5,500 lbs. milk containing not less than 3.5 per cent. fat in their first lactation period, or at least 6,500 lbs. milk containing not less than 3.5 per cent. fat in their second or later lactation periods, each lactation period not to exceed 365 days and each competing animal to be in calf within five months of the commencement of the lactation period. The Challenge Shield is then awarded to the group of four daughters complying with these conditions and producing the highest yield of butter fat.

The special prize of £10 has been won at practically all the Dairy Shows since 1920, but the Challenge Shield has been won on only five occasions. It is probable that entries were restricted for a few years by the fact that the Prize and Shield were open only to Dairy Short-horns, but since 1922 these trophies have been open to all breeds, and in some respects the qualifying conditions have been made less stringent. Full details are published each year in the schedule of prizes issued before the Show and in the catalogues issued at the Show.

Details are given below of the winning entries in 1925-26, 1928-29, 1930-31, 1931-32 and 1932-33.

The winner in 1925-26 was Major C. R. Dudgeon, Cargen Holm, Dumfries, with the progeny of the Ayrshire bull "Thornhill Mount Royal" (19147). The yields of the four daughters of this bull were as follows :—

Daughters.	Milk Yield.	Fat Percentage.	Fat Yield.
	lb.	%	lb.
Cargen Holm Proud Lady 10th	10,193	4.11	415.2
Cargen Holm Sally 6th ...	11,693	3.83	447.8
Cargen Holm Proud Lady 8th	9,721	4.05	393.7
Cargen Holm Daisy Bell 2nd	8,566	4.23	362.3
Total fat yield			1,619.0

The reserve in 1925-26 was Mr. E. A. Smith, Longhills, Lincoln, with the progeny of the Dairy Shorthorn bull, "Babraham Lord Price" (140574). The total yield of fat of the four daughters of this bull was 1,126.0 lb.

In 1928-29 the winner was Mr. Grosvenor Berry with the progeny of the Jersey bull, "Nimrod" (14890). The yields of the four daughters of this bull were as follows:—

Daughters.	Milk Yield.	Fat Percentage.	Fat Yield.
	lb.	%	lb.
Post Girl 2nd	7,542½	4.17	314.52
Nimrod's Primrose	5,786	5.76	333.27
Water Dinah	9,117¼	3.64	331.87
Nimrod's Taranto 2nd ...	8,285¼	3.86	319.81
Total fat yield			1,299.47

The winner in 1930-31 was Mr. G. Wills, Rydon, Ogwell, Newton Abbot, with the progeny of the South Devon bull, "Flete Forester 7th" (11444). The yields of the four daughters of this bull were as follows:—

Daughters.	Milk Yield.	Fat Percentage.	Fat Yield.
	lb.	%	lb.
Primula 5th (33706) ...	8,508½	3.99	339.19
Milkmaid (33702) ...	7,938½	4.54	360.41
Snowdrop 6th (33707) ...	7,871½	4.11	323.52
Pink 12th (33703) ...	6,163¼	4.19	258.24
Total fat yield ...			1,281.66

The reserve in 1930-31 was Mr. A. Weightman, Middle Herrington, Sunderland, with the progeny of the British Friesian bull, "Wychnor Jan" (P.I.) (24645). The total yield of fat of the four daughters of this bull was 1,086.64 lbs.

In 1931-32 four entries were received but only in one of these were all the conditions complied with. The winner was Mr. J. Cochrane, Byreholm, Thornhill, Dumfries-shire, with the progeny of the Ayrshire bull, "Netherton Prosperity" (26488). The yields of the four daughters of this bull were as follows:—

Daughters.	Milk Yield.	Fat Percentage.	Fat Yield.
	lb.	%	lb.
Byreholm Jubilee 2nd (23744)	11,640	4.40	512.16
Byreholm Julia 2nd (23747)	9,410	3.72	350.05
Byreholm Jujube (23746) ...	8,760	4.25	372.30
Byreholm Juno (23749) ...	5,630	4.45	250.53
Total fat yield ...			1,485.04

In 1932-33 there were seven entries, but unfortunately six of these failed to comply fully with the conditions, owing to delayed calvings or other occurrences.

The winner was found to be Mr. G. Wills, Rydon, Ogwell, Newton Abbot, with the progeny of the South Devon bull, "Flete Forester 7th" (11444). Mr. Wills had also won the Shield in 1930-31, with

a group of progeny by the same bull. The yields of the four daughters were as follows :—

Daughters.	Milk Yield.	Fat Percentage.	Fat Yield.
Starlight 11th (34377) ...	lb. 8,999	$\frac{\%}{6}$ 4.21	lb. 378.86
Pink 12th (33703)	6,519 $\frac{3}{4}$	3.97	252.32
Lavender 3rd (34372) ...	6,631 $\frac{1}{2}$	4.27	283.16
Snowdrop 6th (33707) ...	9,250 $\frac{1}{2}$	4.45	411.65
Total fat yield 1,325.99			

During the past year greater attention has been given by owners, Breed Societies and Milk Recording Societies to the discovery and use of bulls whose breeding value has been proved by the performances of their progeny. The Central Council of Milk Recording Societies has drafted a scheme to facilitate the discovery of bulls of proved merit and as a result of these activities the Council trust that a still larger number of entries for the "Robert Mond" Challenge shield will be received next year.

THE MILKING TRIALS FOR GOATS, 1933

By THOMAS W. PALMER.

Whilst the classification was identical with 1932, the entries showed some disparity. Class 41, *She Goats, First Kidders*, secured 12 entries compared with 13 in the previous year. In Class 42 for *She Goats not eligible for previous class*, there were 21 entries against 13 last year, the total of 33 showing an increase of 7, but unfortunately a number of the animals failed to arrive at the Hall—some on account of Foot and Mouth Disease Regulations.

Class 41. She Goats, First Kidders.—Twelve entries, four absent. Mrs. Abbey's "Didgemere Diriam" was first, her yield 12.05 lbs., butter fat 4.70 per cent. and 3.74 per cent., lactation points 2.5, total points 28.71. This goat also obtained the Abbey Cup for the British Alpine gaining the highest points by Milk and Inspection. Second prize went to Mrs. McVay's "Bitterne Penelope" Q*, yield 11.55 lbs., butter fat 4.41 per cent. and 4.52 per cent., lactation 2.5, total points 28.17. Miss Booth's "Didgemere Salome" Q*Q*** was third, yield 11.60 lbs., butter fat 3.96 per cent. and 3.89 per cent., lactation 3.6, total points 28.06. She was Reserve (with No. 389), for the Dewar Cup. Mrs. Morcom's "Cornish Saccharine" Q*Q*Q*Q* was fourth, yield 9.90 lbs., butter fat 5.08 per cent. and 4.30 per cent., lactation 3.1, total points 25.69. The Reserve number gained a total of 22.30 points. Competition was very keen amongst the first three animals, and at the finish only .65 separated the third from the first. One goat in this class was disqualified for deficiency of butter fat.

Class 42. She Goats not eligible for Class 41.—Twenty-one entries, seven absent. The first prize was awarded to Miss Mostyn Owen's "Mostyn Marigold" Q*Q* with a yield of 13.65 lbs., butter fat 4.85 per cent. and 4.28 per cent., lactation 5.4, total points 36.05. This goat had been in milk since 3rd March 1931 (957 days), and it is worthy of note that she competed at the 1931 Show when she gained 2nd prize, and at the 1932 Show when she secured not only the 1st prize but five Cups. This year, in addition to the first prize, she was awarded the Dual Purpose Challenge Certificate, the Holmes Pegler Jubilee Challenge Trophy, the Baroness Burdett Coutts Challenge Cup, the Tremedda Selene Challenge Cup, the Dewar Twenty Guinea Challenge Trophy, and with her stable companion (Mostyn Matchless) the Dewar Challenge Cup. This is a record which will take some

beating, especially as it has now been decided by the British Goat Society that a goat to compete in a milking competition must have kidded within two years of such competition. Second Prize also went to Miss Mostyn Owen for "Ryedale Daisy" *, yield 14.10 lbs., butter fat 4.09 per cent. and 3.69 per cent., lactation 4.6 (she kidded on 1st December, 1932), total points 34.28. She was Reserve for the Tremedda Selene Cup and Dewar Trophy. Miss Skidmore's "Heddon Shoe" **Q* was Third, yield 13.20 lbs., butter fat 4.32 per cent. and 4.96 per cent., lactation 2.3, total points 32.10. The Chamberlain Cup was awarded to this goat, whilst in addition she was Reserve for the Dual Purpose Challenge Certificate, the Baroness Burdett Coutts Cup and the Holmes Pegler Cup. Fourth prize was awarded to Mrs. Morcom's "Cornish Jujube" Q*Q*Q*, yield 8.60 lbs., butter fat 6.98 per cent. and 6.07 per cent., lactation 5.4, total points, 28.40. The Reserve Number had a total of 27.73 points, whilst two animals secured High Commendations and one was Commended. Competition was fairly keen, but did not attain to the standard set last year. Two goats in this class, "Mostyn Marigold" Q*Q* and "Cornish Jujube" Q*Q*Q* had been in milk over twelve months and so obtained the full lactation points (5.4), their milk yields being 13.65 lbs. and 8.6 lbs. respectively.

Class 43. She Goats, Toggenburg.—Five entries for Inspection, one for Milking, which unfortunately was prevented from attending owing to Foot and Mouth Disease Regulations. Another goat of this breed, "Serinda of Weald" Q* was entered for Milking only in Class 42; her yield was 7.8 lbs., total points 20.48. She did not obtain an award in her class but secured the Straker Cup for the Toggenburg goat obtaining the highest number of points in the Milking Competition—a feat which she accomplished at the 1931 Show.

Class 44. She Goats, British Alpine.—Six entries for Inspection, three for Milking, plus one entered for Milking only. Only one goat competed. This was Mrs. Abbey's "Didgemere Diriam" in Class 41. She obtained first prize with a yield of 12.05 lbs., butter fat 4.70 per cent. and 3.74 per cent., total 28.71. She also secured the Abbey Cup.

Class 45. She Goats, Saanen.—Six entries for Inspection, four for Milking—three competed. In Class 41, Miss Booth's "Didgemere Salome" Q*Q*** was third with a yield of 11.6 lbs., butter fat 3.96 per cent. and 3.89 per cent., total 28.06.

Class 46. She Goats, British Saanen.—Twelve entries for Inspection, nine for Milking, plus three for Milking only. Of these twelve goats, nine competed. In Class 42, Miss Mostyn Owen's

"Mostyn Marigold" Q*Q* was first with a yield of 13.65 lbs., butter fat 4.85 per cent. and 4.28 per cent., total 36.05, and in addition to the prize was awarded various Cups and Trophies as previously mentioned. The same owner's "Ryedale Daisy" * was second, yield 14.10 lbs., butter fat 4.09 per cent. and 3.69 per cent., total 34.28. Miss Skidmore's "Heddon Shoe" **Q* was third, yield 13.20 lbs., butter fat 4.32 per cent. and 4.96 per cent., total 32.10. She was awarded the Chamberlain Cup for the British Saanen goat exhibited by its breeder gaining the highest total of points by Inspection and Milking—the goat to be entered in the British Saanen Section of the Herd Book. Miss Pelly's "Theydon Perronelle" *Q*Q*Q*Q*Q** was H.C., yield 11.35 lbs., total 25.95, as also was Mr. J. R. Egerton's "Malpas Melody" Q*Q*Q*, yield 11.15 lbs., total 25.26, and the same owner's "Malpas Meadowsweet" *Q*Q*Q**Q* was Commended, yield 9.50 lbs., total 23.70. In Class 41, Miss Walton's "Dissington Marcella" * was Reserve, yield 9.70 lbs., total 22.30.

Class 47. She Goats, Anglo-Nubian.—Seven entries for Inspection, two for Milking—one absent; the other, "Theydon Belle" Q*Q*Q*Q* did not obtain an award in her class, but secured the Pomeroy Cup for the Anglo-Nubian goat gaining the highest number of points in the milking; her yield was 6.95 lbs. total 21.90.

Class 48. She Goats, Any Other Variety.—Six entries for Inspection, five for Milking, plus four for Milking only. Of these nine goats, seven competed. In Class 41, Mrs. McVay's "Bitterne Penelope" Q* was second, yield 11.55 lbs., butter fat 4.41 per cent. and 4.52 per cent., total 28.17. In Class 42 Mrs. Morcom's "Cornish Jujube" Q*Q*Q* was fourth, yield 8.6 lbs., butter fat 6.98 per cent. and 6.07 per cent., total 28.40, whilst the same owner's "Cornish Catch" Q* was Reserve with a total of 27.73. One goat was deficient in butter fat at both the morning and evening milkings, but it is only fair to add that she met with an accident whilst travelling to the Show.

The usual Tabulated Statements follow :—

TABLE I.

Class.	Description.	Number in Class.		Average Live Weight.	Average Yield of Milk.	Highest Yield.	Lowest Yield.	Average period of Lactation.	Average Fat.	Average Solid not Fat.	Number of Animals below Standard for Fat.		Average points Gained.
		Entered.	Competing.								a.m.	p.m.	
43	Toggenburg	2	1	151	7.80	7.80	7.80	218	4.60	8.33	—	—	20.48
44	British Alpine	4	1	132	12.05	12.05	12.05	100	4.22	8.10	—	—	28.71
45	Saanen	4	3	176	9.60	11.60	7.70	247	3.64	8.19	—	—	23.16
46	British Saanen	12	9	185	10.90	14.10	7.15	295	4.14	8.31	—	—	26.63
47	Anglo-Nubian	2	1	212	6.95	6.95	6.95	267	6.13	9.75	—	—	21.00
48	Any Other Variety	9	7	163	9.85	11.55	8.60	191	4.54	8.68	1	1	24.56

TABLE II.

Description of Class.	Year of Show.	Number of Animals Competing.	Average live weight of each Animal.	Average period of Lactation, days.	Average weight of Milk.		Average weight of Milk per day.	Highest Yield.	Lowest Yield.	Percentages.			
										Fat.		Solids.	
					a.m.	p.m.				a.m.	p.m.	a.m.	p.m.
Star or Q Star Milkers	1925	9	152	218	4.8	3.8	8.6	13.35	4.85	4.95	5.38	8.99	9.10
"	1926	7	168	189	5.08	4.88	9.96	12.3	7.15	4.38	4.63	8.53	8.64
"	1928	9	189	218	5.03	4.73	9.76	12.65	6.05	4.68	4.43	8.66	8.79
Other than First Kidders	1929	10	169	210	4.64	4.53	9.17	11.65	6.45	4.36	4.66	8.70	8.63
"	1930	9	178	197	4.62	4.45	9.07	12.70	6.35	4.64	4.63	8.75	8.51
"	1931	14	158	194	4.29	3.97	8.17	14.30	3.90	4.97	4.91	8.36	8.60
"	1932	12	181	249	5.67	5.32	10.99	16.00	7.00	3.96	4.11	8.50	8.47
"	1933	14	182	268	5.18	5.04	10.22	14.10	6.95	4.57	4.30	8.27	8.73
Not eligible as Star Milkers	1925	7	131	180	3.4	2.8	6.2	8.25	3.85	4.80	5.38	9.08	8.95
"	1926	6	136	150	4.36	4.09	8.45	11.6	6.35	3.87	4.60	8.60	8.72
"	1928	3	118	204	3.58	3.48	7.06	8.35	5.9	4.34	3.80	8.62	8.58
First Kidders	1929	13	157	199	4.62	4.30	8.92	14.70	5.45	4.26	4.07	8.82	8.84
"	1930	6	164	196	4.65	4.35	9.00	11.60	8.25	4.45	4.43	8.53	8.43
"	1931	14	163	200	4.28	4.06	8.34	14.45	5.70	4.43	4.73	8.30	8.58
"	1932	13	171	243	4.64	4.28	8.92	11.70	4.10	3.82	4.31	9.04	8.68
"	1933	8	157	208	5.12	4.80	9.92	12.05	7.15	4.20	3.88	8.17	8.66

CLASS 41.—SHE GOATS (FIRST KIDDERS).

Number Name	331 Malpas Magna.	342 Didgemere Diriam.	348 Didgemere Salouic.	356 Malpas Myrtle.	361 Dissington Marcella.	365 Heddon Selina.
Born	Apr. 17, 1931. —	Feb. 10, 1931. 132	Feb. 2, 1931. 153	Aug. 1, 1930. —	Apr. 24, 1931. 176	Mar. 12, 1931. 150
Live weight in lbs.	Apr. 14. 187	Apr. 5. 196	Feb. 1. 259	Mar. 25. 207	Apr. 30. 171	Mar. 13. 219
Last Kid	—	—	—	—	—	—
Days since Kidding	187	196	259	207	171	219
Weight of Milk, 1st day	Morn. Even. 4.8 4.5	Morn. Even. 6.5 5.4	Morn. Even. 5.9 5.8	Morn. Even. 3.7 3.4	Morn. Even. 5.2 4.6	Morn. Even. 4.4 4.2
Weight of Milk, 2nd day	4.8 4.3	6.1 6.1	5.9 5.6	3.6 3.6	4.8 4.8	4.0 4.0
Total	9.6 8.8	12.6 11.5	11.8 11.4	7.3 7.0	10.0 9.4	8.4 8.2
Average	4.8 4.4	6.3 5.75	5.9 5.7	3.65 3.5	5.0 4.7	4.2 4.1
Percentage { Fat ...	2.31 2.61	4.70 3.74	3.96 3.89	4.45 4.00	3.92 3.56	4.77 4.42
Composition of { Solids other than Fat ...	8.65 8.91	7.92 8.46	7.78 8.37	8.43 9.13	8.10 8.60	8.17 8.78
Total Solids	10.96 11.52	12.62 12.20	11.74 12.26	12.88 13.13	12.02 12.16	12.94 13.20
Actual weight of Fat, in lbs.	0.111 0.115	0.206 0.215	0.234 0.222	0.162 0.140	0.106 0.167	0.200 0.181
Actual weight of Solids other than Fat, in lbs.	0.415 0.392	0.499 0.486	0.459 0.477	0.308 0.320	0.405 0.404	0.343 0.360
Points { For weight of Milk (lbs.) ...	9.20	12.05	11.60	7.15	9.70	8.30
For weight of Fat (lbs. × 20)	4.52	10.22	9.12	6.04	7.26	7.62
For weight of Solids other than Fat (lbs. × 4)	3.23	3.94	3.74	2.51	3.24	2.81
Total Points for Milk	16.95	26.21	24.46	15.70	20.20	18.73
Deductions	2.00	—	—	—	—	—
TOTAL POINTS GAINED FOR MILK	14.95	26.21	24.46	15.70	20.20	18.73
Points for time since Kidding	2.4	2.5	3.6	2.7	2.1	2.9
TOTAL POINTS GAINED	17.35	28.71	28.06	18.40	22.30	21.63
Remarks and Awards	Disqualified.	1st Prize.	3rd Prize.		Reserve.	

CLASS 41.—SHE GOATS—Continued.

CLASS 42.—SHE GOATS (NOT ELIGIBLE FOR CLASS 41).

Number Name	373 Cornish Saccharine.	377 Bittene Penelope.	332 Malpas Patience.	333 Malpas Meadowsweet.	334 Serinda of Weald.	335 Ryedale Daisy.
Born	Feb. 22, 1931. 149	Mar. 26, 1931. 184	Feb. 28, 1927. Aug. 21, 58	Feb. 18, 1929. Feb. 12, 248	Mar. 13, 1929. Mar. 14, 218	Apr. 10, 1927. 185
Live weight, in lbs.	...	...	...	...	...	...
Last Kidled	Feb. 27. 233	Apr. 3 198	...	...	...	Dec. 1, 1932 322
Days since Kidling	...	...	...	...	...	...
Weight of Milk, 1st day	Morn. Even. 5.4 4.6	Morn. Even. 6.3 5.6	Morn. Even. 4.5 5.2	Morn. Even. 4.7 4.5	Morn. Even. 3.9 3.6	Morn. Even. 7.3 6.9
Weight of Milk, 2nd day	4.9 4.9	5.7 5.5	5.4 5.2	5.0 4.8	4.1 4.0	6.9 7.1
Total	10.3 9.5	12.0 11.1	9.9 10.4	9.7 9.3	8.0 7.6	14.2 14.0
Average	5.15 4.75	6.0 5.55	4.95 5.2	4.85 4.65	4.0 3.8	7.1 7.0
Percentage Composition of the Milk.	5.08 4.30 8.40 8.60 13.48 12.90	4.41 4.52 7.65 8.50 12.36 13.02	5.79 3.16 8.15 8.74 13.04 11.90	4.18 3.81 8.22 8.63 12.40 12.44	4.82 4.38 7.94 8.72 12.88 13.10	4.09 3.59 8.01 8.35 12.10 12.04
Actual weight of Fat, in lbs.	0.202 0.204	0.265 0.251	0.287 0.164	0.203 0.177	0.193 0.166	0.260 0.258
Actual weight of Solids other than Fat, in lbs.	0.433 0.409	0.477 0.472	0.403 0.454	0.399 0.401	0.318 0.331	0.569 0.585
Points—	...	...	...	...	...	...
For weight of Milk (lbs.)	9.90	11.55	10.15	9.50	7.80	14.10
For weight of Fat (lbs. \times 20)	9.32	10.32	9.02	7.60	7.18	10.96
For weight of Solids other than Fat (lbs. \times 4)	3.37	3.80	3.43	3.20	2.60	4.62
Total Points for Milk	22.59	25.67	22.60	20.30	17.58	29.68
Deductions	...	...	...	...	...	...
TOTAL POINTS GAINED FOR MILK	22.59	25.67	22.60	20.30	17.58	29.68
Points for time since Kidling	3.1	2.5	0.2	3.4	2.9	4.6
TOTAL POINTS GAINED	25.69	28.17	22.80	23.70	20.48	34.28
Remarks and Awards	4th Prize.	2nd Prize.		Highly Commended.		2nd Prize.

CLASS 42.—SHE GOATS (NOT ELIGIBLE FOR CLASS 41)—Continued.

Number	...	...	...	...	...	...	367 Theydon Belle.	374 Cornish Juythe.	375 Cornish Catch.	378 Ednam Judy.
Name	...	...	...	...	...	...	Mar. 15, 1930. 212 Jan. 24. 267	Mar. 7, 1928. 170 Jan. 22, 1932. 269	June 13, 1927. 151 Feb. 18. 242	Apr. 14, 1930 104 May 17. 134
Born	...	...	...	...	...	...	Morn. Even. 3.5 3.5 3.4 3.5	Morn. Even. 4.5 4.4 4.2 4.1	Morn. Even. 5.5 5.1 5.3 5.3	Morn. Even. 4.1 4.5 4.4 4.3
Live weight, in lbs.	...	...	...	...	...	...	6.9 7.0	8.7 8.5	11.0 10.4	9.1 8.7
Last Kid	...	...	...	...	...	...	3.45 3.5	4.35 4.25	5.5 5.2	4.55 4.35
Days since Kidding	...	...	...	...	...	...	5.56 6.70 9.30 10.20 14.88 16.00 0.192 0.235 0.321 0.357	6.98 6.07 8.94 9.45 15.92 15.62 0.304 0.258 0.389 0.402	4.48 4.95 8.42 8.73 12.90 13.68 0.246 0.257 0.463 0.454	4.42 4.48 8.82 9.28 13.24 13.76 0.201 0.195 0.401 0.404
Weight of Milk, 1st day	...	...	...	...	...	...	6.95	8.60	10.70	8.90
Weight of Milk, 2nd day	...	...	...	...	...	...	8.54	11.24	10.06	7.92
Total	...	...	...	...	...	...	2.71	3.16	3.67	3.22
Average	...	...	...	...	...	...	18.20	23.00	24.43	20.04
Percentage (Fat	...	...	...	...	...	...	18.20	23.00	24.43	20.04
Composition of	...	...	...	...	...	...	3.7	5.4	3.3	1.8
the Milk	...	...	...	...	...	...	21.90	28.40	27.73	21.84
Actual weight of Fat, in lbs.	...	...	...	...	...	...	...	...	...	...
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	...	...	...	...	...
Points	...	...	...	...	...	...	...	...	...	...
For weight of Milk (lbs.)	...	...	...	...	...	...	...	...	...	...
For weight of Fat (lbs. × 20)	...	...	...	...	...	...	...	...	...	...
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	...	...	...	...	...
Total Points for Milk	...	...	...	...	...	...	...	...	...	...
Deductions	...	...	...	...	...	...	...	...	...	...
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	...	...	...	...	...
Points for time since Kidding	...	...	...	...	...	...	...	...	...	...
TOTAL POINTS GAINED	...	...	...	...	...	...	...	...	...	...
Remarks and Awards	...	...	...	...	...	...	4th Prize.	Reserve.	...	...

THE DAIRY SHOW BUTTER TESTS, 1933

By R. H. EVANS, B.Sc.

The 1933 Show will stand out as that at which all cattle had to be milked thrice daily, for the first time. It is only a few years ago when all cows were milked only twice daily. The transition from twice milking to thrice milking has taken place gradually but surely. To have all the cows competing milked at the same time, throughout the Show, very much facilitated the work of the Stewards and Judges.

On the whole the cattle competing proved themselves to be well up to the average standard obtaining at the London Dairy Show. There were 221 cows entered for the Butter Tests, of which 144 competed. Six animals were disqualified.

The following table gives the number—with percentages—of cattle which reached the standard points for their respective breeds :

Breed.	No. tested.	No. that reached breed standard.	Percentage of those competing.
Shorthorns, Pedigree	14	8	57%
Shorthorns, Non-pedigree	4	2	50%
Lincoln Reds	4	2	50%
British Friesians	19	17	89%
South Devons	14	5	36%
Devons	—	—	—
Red Polls	16	6	38%
Blue Albions	—	—	—
Ayrshires	12	9	75%
Guernseys	20	16	80%
Jerseys	24	22	92%
Welsh Blacks	4	2	50%
Kerries	—	—	—
Dexters	7	3	43%

It will be seen that 92 cattle out of the 138 tested obtained the standard number of points for their respective breeds—approximately 66%. This figure compares favourably with the previous year figure—61%. The British Friesians, Guernseys and Jerseys put up excellent performances.

The total amount of milk yielded by the 138 cattle competing amounted to 7,149.5 lbs.—an average of 51.8 lbs. per cow—a decrease of 4.4 lbs. per animal on the 1932 figure.

The total amount of butter churned amounted to 263.29 lbs.—an average yield of 1.91 lbs. per cow—the same figure as that at the 1932 Show.

The awards in the Butter Tests were in accordance with the following scale of points :—

One point for every ounce of butter, one point for every completed ten days since calving (calculated to the first day of the Show), deducting the first 40 days. Maximum allowances for period of lactation 12 points. Fractions of ounces of butter and incomplete periods of less than ten days to be worked out in decimals and added to the total points. In the case of cows obtaining the same number of points the prize to be awarded to the cow that has been longest time in milk. A certificate giving last day of calving (which had to be before 9 a.m. on October the 2nd) to reach the Secretary by Saturday the 8th October.

No prize to be awarded to animals in the Butter Tests which do not come up to the following Standard :—

Breed.	Helpers.	Cows under 5 years.	Cows, 5 years, and over.
	Points.	Points.	Points.
Shorthorns, Pedigree	22.7	28.3	34
Shorthorns, Non-pedigree	22.7	28.3	34
Lincoln Reds	22.7	28.3	34
British Friesians	22.7	28.3	34
South Devons	22.7	28.3	34
Devons	20.0	25.0	30
Red Polls	22.7	28.3	34
Blue Albions	22.7	28.3	34
Welsh	20.0	25.0	30
Ayrshires	22.7	28.3	34
Guernseys	20.0	25.0	30
Jerseys	23.3	29.2	35
Kerries	19.3	24.2	29
Dexters	19.3	24.2	29

Certificates of Merit and Highly Commended Cards were given to animals, other than prizewinners that reached the above standard. The following were the number of entries and the actual number tested at the 1933 Dairy Show :—

Breed.	No. entered.	No. tested.
Shorthorns, Pedigree	25	14
Shorthorns, Non-pedigree	10	4
Lincoln Reds	8	4
British Friesians	48	19
South Devons	16	14
Red Polls	19	16
Ayrshires	25	12
Guernseys	28	20
Jerseys	31	24
Welsh Blacks	4	4
Dexters	7	7
	221	138

SHORTHORNS.

A—Pedigree.

Fourteen Pedigree Shorthorns were tested at the 1933 Show—two less than in 1932.

Of the four prizes offered in the Shorthorn Classes (including Pedigree, Non-pedigree and Lincoln Reds), the third and second prizes were awarded to pedigree animals. "Siddingworth Grace 2nd" (106064) obtained the 2nd prize in the Shorthorn classes, which carried with it the Association's Bronze Medal. This cow yielded 72.4 lbs. milk in the 24 hours, from which 2.88 lbs. butter was obtained: giving a butter ration of 1 : 25.14.

The 3rd prize in the Shorthorn classes was awarded to Mr. A. T. Loyd's "Kelmscott Hester 23rd" (50170), of Wantage, with a milk yield of 64.1 lbs., from which 2.72 lbs. of butter was obtained.

B—Non-Pedigree.

Mr. Bucknell's cow "Snowball" (D.S.A.R. 49131) was awarded the first prize and the Association's Silver Medal in the Shorthorn classes, with a milk yield of 56 lbs., from which 3.25 lbs. of butter was churned. This cow showed a butter ratio of 1 : 17.23—an excellent performance. *

C—Lincoln Reds.

Four Lincoln Reds were tested and the fourth prize went to F. Sainsbury's "Bendish Queen 4th" (Vol. 34, p. 394), her yield of milk and butter respectively being 74.8 lbs. and 2.59 lbs.

BRITISH FRIESIANS.

Nineteen British Friesians were tested, 17 of which reached the standard number of points for the breed—an excellent performance.

The premier award and the Association's Silver Medal went to Miss M. E. Smith's "Terling Torch 37th" (110748), with a yield of 79.5 lbs. of milk and 3.3 lbs. of butter. The second prize and the Association's Bronze Medal were won by Messrs. Strutt & Parker (Farms), Ltd's cow "Lavenham Wallen 18th" (118328). This animal yielded 99.3 lbs. of milk from which 3.24 lbs. of butter was obtained—which must be considered a very excellent performance. The third place was taken by Mr. Twentyman's "Winchester Audrey" (122618), with a yield of 76.6 lbs. of milk and 3.09 lbs. of butter. Mr. J. Martin's "Netherhall Humbug" (86840) occupied the fourth place.

SOUTH DEVONS.

There was a distinct falling off in the number of South Devons tested this year as compared with the 1932 figure. Only fourteen put in an appearance, whereas last year nineteen competed.

The first prize and the Association's Silver Medal were awarded to Miss Jervoise Smith's cow "Sandwell Hillary" (A.66), with a milk yield of 59 lbs. and a butter yield of 3 lbs. The second prize and the Association's Bronze Medal went to Mr. G. Wills' "Milkmaid 3rd" (35142)—her milk yield amounting to 53.6 lbs., from which 2.52 lbs. of butter was obtained.

The third prize was won by "Ferry Primula" (36970 A), from the Dartington Hall herd, and the fourth went to Miss Jervoise Smith's "Crocus" (34960).

RED POLLS.

Sixteen Red Polls were tested. Of this number six reached the breed standard.

The premier place and the Association's Silver Medal went to Mr. Stuart-Paul's "Holton Rainbow 6th" (37635) with a milk yield of 56.4 lbs. from which 2.31 lbs. of butter was obtained.

The second prize and the Bronze Medal were awarded to Mr. Paul's "Samford Watchgirl" (42204). The third and fourth prizes went to Mr. Owen H. Smith's "Ranksborough Rosie" (46006) and "Ranksborough Fly" (44040) respectively.

AYRSHIRES.

Only twelve Ayrshires competed at the 1933 Show, as compared with twenty-two tested at the previous Show. Nine of the twelve reached the standard number of points for the breed.

The premier place and the Association's Silver Medal were awarded to Mr. Mungo Sloan's "Hunterhouse Lena" (18356) with a milk yield of 46.7 lbs. from which 3.27 lbs. of butter was obtained. This gives a butter ratio of 1 : 14.28—a very excellent performance.

The second prize and the Bronze Medal went to Mr. J. A. Brown's "Corniston Towers Brownie" (11457), with a milk yield of 88.1 lbs. from which 3.17 lbs. of butter was obtained.

The third award was won by "Newlands Sophie" (17924)—a cow belonging to the Eshott Pedigree Stock Farms. This cow yielded 66.1 lbs. milk from which 3.08 lbs. of butter was obtained.

Mr. A. W. Montgomerie's cow "Lessnessock Red Rose 6th" (5933) occupied the fourth position.

GUERNSEYS.

Twenty Guernseys were tested at the 1933 Show as against only twelve in 1932. The Guernseys proved themselves a very strong class, sixteen of the twenty animals tested reaching the standard for the breed.

Capt. H. J. Pilbrow's "Valence Lavender 2nd" (26920) was awarded the first prize and Silver Medal. This cow yielded 58.7 lbs. milk from which 2.9 lbs. of butter was obtained.

The second prize and Bronze Medal went to Mr. H. H. Scott's "Queen of North Valley" (23433), her milk and butter yield amounting to 47.5 lbs. and 2.4 lbs. respectively.

The third place was occupied by Mr. H. E. Crawford's "Eswelle Joyful" (25767), with a yield of 46.8 lbs. milk and 1.8 lbs. butter, after being in milk 254 days—thus obtaining the maximum points of 12 for lactation.

The fourth prize was taken by Mrs. J. Sutcliffe Pyman's "Norsebury May Belle" (32320).

JERSEYS.

Twenty-four Jerseys were tested, and as usual proved themselves excellent butter producers.

Mrs. Evelyn's "Wootton Early Minx" (15068) was awarded the first prize and the Association's Silver Medal, and the E.J.C.S. Gold Medal. Her yield of milk amounted to 38.3 lbs. from which 2.71 lbs. butter was obtained, giving a butter ratio of 1 : 14.14. The cow had been in milk 146 days, thus gaining 10.6 points for lactation.

The second prize, the Association's Bronze Medal and the E.J.C.S. Silver Medal went to Mr. H. S. Mountain's "Sir Laurence's Imogen" (14508), her yield of milk and butter being 42.6 and 2.36 lbs. respectively. This cow also won the National Butter Cup.

The third prize and the E.J.C.S. Bronze Medal were won by Mrs. Evelyn's "Wotton Pride of the Air" (15083), and the fourth prize by Mrs. A. E. Phillips' "Dalby Georgiana Wideawake" (9095).

WELSH BLACKS.

Four cows of this breed were tested, two of which obtained the standard points for the breed.

The prize of £3 was awarded to Lady Shelley-Rolls' "Bodelwa Beauty 7th" (9070), with a yield of 71.9 lbs. of milk from which 3 lbs. of butter was obtained.

A prize of £2 was awarded to Mr. Vosper's "Llanychan Tetsi" (10458). This cow's milk yield amounted to 53.9 lbs. and her butter 1.78 lbs.

DEXTERS.

Seven Dexters put in an appearance, three of which obtained the standard points for the breed.

The £3 prize was awarded to Lady Loder's "Grinstead Hawk 5th" (4108), and the second prize went to the same exhibitor's "Grinstead Duchess 1st" (4104).

TROPHIES AND CUPS.

The Butter Test points are taken into consideration in awarding the following Trophies and Cups :—

	Winner.	Reserve.
	No.	No.
The B.D.F.A. Supreme Championship	104	220
Morrison Trophy	249	—
Spencer Cup	104	220
National Butter Cup	284	305
Shorthorn Butter Cup	62	32
South Devon Herd Book Cup...	167	171
Rowallan Cup	220	229
Thornton (Red Poll) Cup	196	192
Stagenhoe Cup (for Guernseys)	245	248
Nutt Cup (for Dexters)	323	322
Shorthorn Championship Prize ...	5	62
£100 Friesian Prize	10	—

The following table gives the average results for all breeds competing :—

Year.	Total No. of Cows.	Average weight of 24 hours' Milk.	Average Yield of Butter.	Average Butter Ratio.	Average No. of Points.
		lbs.	lbs. ozs.		
1919	94	37½	1 9½	23.43	28.61
1920	111	39	1 9½	24.21	28.25
1921	173	39½	1 6½	25.35	27.68
1922	187	42½	1 8½	27.99	26.31
1923	143	41½	1 11½	24.03	32.23
1924	148	43½	1 12½	24.21	32.55
1925	154	46½	1 13½	25.59	32.61
1926	149	49½	1 15½	26.69	34.68
1928	133	49½	1 14½	27.00	33.93
1929	130	52½	1 13½	28.69	32.48
1930	147	50½	1 13½	28.47	30.12
1931	140	57½	2 0	28.74	34.43
1932	159	56½	1 15½	29.40	32.93
1933	138	51.8	1 91	27.15	32.91

TABLE I.—NUMBER OF CATTLE TESTED SINCE 1901.

		1901 to 1909	1910	1911	1912	1913	1914	1915	1919	1920	1921	1922	1923	1924	1925	1926	1928	1929	1930	1931	1932	1933
Breed.																						
Shorthorns	...	188	22	26	30	26	20	20	24	30	63	39	34	18	15	23	20	27	21	26	24	18
Lincoln Reds	...	24	8	6	6	5	4	2	4	4	7	7	9	8	10	4	4	4	8	8	5	4
British Friesians	...	...	...	...	...	...	1	2	2	15	10	24	13	23	19	25	19	16	19	16	30	19
South Devons	...	16	7	2	4	2	6	3	...	...	...	5	3	...	3	1	7	9	12	9	19	14
Devons	...	...	...	...	...	...	...	...	5	2	6	7	5	3	8	1	2	1	2	...	4	...
Red Polls	...	58	4	1	1	...	...	1	11	12	17	23	13	17	6	17	17	13	23	22	10	16
Blue Albions	...	...	...	...	...	...	...	...	...	...	...	...	...	4	5	4	...	2	1	1	...	...
Welsh Blacks	...	...	...	...	...	...	...	...	...	...	...	4	...	...	2	1	...	...	...	...	...	4
Ayrshires	...	12	1	...	4	...	...	...	...	...	2	...	...	...	31	18	25	18	21	21	22	12
Guernseys	...	28	2	1	2	6	5	7	16	14	19	15	10	16	18	14	10	10	12	20	12	20
Jerseys	...	169	18	18	7	18	9	10	22	21	24	27	25	32	24	25	22	22	22	18	27	24
Kerries	...	9	...	1	...	5	...	...	4	8	17	13	7	10	7	5	2	4	1	4	1	...
Dexters	...	8	...	...	...	...	...	...	6	5	3	3	8	2	3	3	5	4	5	5	5	7
TOTALS	...	512	62	55	54	62	45	45	94	111	173	187	143	148	151	149	133	130	147	140	159	138

TABLE II.—NUMBER OF CATTLE OF THE VARIOUS BREEDS TESTED SINCE 1923, WITH THEIR AVERAGE PERIOD OF LACTATION, WEIGHT OF BUTTER, BUTTER RATIOS AND POINTS.

Year.	No.	Breed.	Average No. of Days in Milk.	Average Weight of Butter.	Average Butter Ratio.	Average No. of Points.
				lbs. ozs.	lbs.	
1924 ...	18	Shorthorns	34 $\frac{3}{4}$	1 15	25.54	31.95
1925 ...	15	"	40	1 11 $\frac{1}{2}$	27.60	28.46
1926 ...	23	"	43	1 13 $\frac{3}{4}$	27.05	31.01
1928 ...	20	"	60	1 4 $\frac{1}{4}$	34.12	23.13
1929 ...	27	"	51	1 9	31.62	26.79
1930 ...	21	"	50	1 9	31.98	26.86
1931 ...	26	"	53	1 14	33.92	31.73
1932 ...	24	"	38	1 14 $\frac{1}{2}$	35.13	31.13
1933 ...	18	"	42	1 14	30.34	31.84
1924 ...	8	Lincoln Reds	72 $\frac{1}{2}$	1 12	27.43	32.11
1925 ...	10	"	39	1 1 $\frac{1}{2}$	27.27	34.27
1926 ...	4	"	31	2 8 $\frac{1}{2}$	22.57	40.76
1928 ...	4	"	33	2 2	29.76	34.06
1929 ...	4	"	33 $\frac{1}{2}$	2 3 $\frac{1}{2}$	28.39	35.30
1930 ...	8	"	60 $\frac{1}{2}$	2 0 $\frac{1}{2}$	31.60	35.01
1931 ...	8	"	28	2 1 $\frac{1}{2}$	31.00	33.59
1932 ...	5	"	30	1 10	36.65	26.10
1933 ...	4	"	57	1 11 $\frac{1}{2}$	32.82	30.40
1924 ...	23	British Friesians	57 $\frac{1}{2}$	1 12	31.87	30.28
1925 ...	19	"	45	1 15	32.36	32.50
1926 ...	25	"	52	2 4 $\frac{1}{2}$	28.97	38.13
1928 ...	19	"	52	1 14	33.45	31.74
1929 ...	16	"	31 $\frac{1}{2}$	1 15 $\frac{1}{2}$	37.78	31.37
1930 ...	19	"	64 $\frac{1}{2}$	1 14	32.65	32.18
1931 ...	16	"	34	2 3	34.60	35.15
1932 ...	30	"	28	1 15 $\frac{1}{2}$	35.48	32.02
1933 ...	19	"	28	2 5 $\frac{1}{2}$	30.17	37.74
1925 ...	2	South Devons	111	2 8 $\frac{1}{2}$	17.80	46.25
1926 ...	1	"	88	3 2 $\frac{1}{2}$	21.63	55.30
1928 ...	2	"	54	2 3 $\frac{1}{2}$	25.67	37.40
1929 ...	3	"	95	2 6 $\frac{1}{2}$	26.65	44.03
1930 ...	6	"	47 $\frac{1}{2}$	2 3	26.68	35.54
1931 ...	9	"	54	2 3	25.70	37.10
1932 ...	19	"	65	1 13 $\frac{3}{4}$	27.26	32.57
1933 ...	14	"	34	1 14	26.40	30.10
1925 ...	1	Dairy South Devon	124	2 4 $\frac{1}{2}$	18.90	44.90
1928 ...	5	"	116	2 8 $\frac{1}{2}$	19.41	47.78
1929 ...	6	"	93	2 3 $\frac{1}{2}$	26.75	40.75
1930 ...	6	"	54	2 1 $\frac{1}{2}$	27.15	37.39
1924 ...	3	Devons	40 $\frac{3}{4}$	1 10 $\frac{1}{2}$	24.88	26.50
1925 ...	8	"	51	1 13 $\frac{1}{2}$	24.40	30.78
1926 ...	1	"	41	2 3 $\frac{3}{4}$	21.85	35.85
1928 ...	2	"	213	1 2	22.55	30.00
1929 ...	1	"	39	1 9	39.60	25.00
1930 ...	2	"	30	1 0 $\frac{3}{4}$	34.32	23.35
1932 ...	4	"	103	1 5	27.31	27.12
1924 ...	17	Red Polls	76 $\frac{1}{2}$	1 7 $\frac{1}{2}$	25.79	24.06
1925 ...	6	"	63	1 11 $\frac{1}{2}$	28.70	30.20
1926 ...	17	"	60	1 11	27.13	29.47
1928 ...	17	"	67	1 13 $\frac{1}{2}$	28.24	32.21
1929 ...	13	"	43	1 9	31.72	26.01
1930 ...	23	"	52 $\frac{1}{2}$	1 10 $\frac{1}{2}$	33.25	38.73
1931 ...	12	"	50	1 15 $\frac{1}{2}$	30.04	32.82
1932 ...	10	"	56	1 12 $\frac{3}{4}$	32.64	30.77
1933 ...	16	"	73	1 10	31.53	28.75

TABLE II.—NUMBER OF CATTLE OF THE VARIOUS BREEDS TESTED SINCE 1923, WITH THEIR AVERAGE PERIOD OF LACTATION, WEIGHT OF BUTTER, BUTTER RATIOS AND POINTS—*Continued.*

Year.	No.	Breed.	Average No. of Days in Milk.	Average Weight of Butter.	Average Butter Ratio.	Average No. of Points.
				lbs. ozs.	lbs.	
1924 ...	4	Blue Albions	26 $\frac{1}{2}$	1 15 $\frac{1}{2}$	23.34	31.63
1925 ...	5	"	35	2 0 $\frac{1}{2}$	23.70	33.11
1926 ...	4	"	50	1 14 $\frac{1}{2}$	31.16	32.16
1929 ...	2	"	31	1 13 $\frac{1}{2}$	31.64	29.25
1930 ...	1	"	58	2 8 $\frac{1}{2}$	22.90	40.50
1931 ...	1	"	26	1 10	30.10	26.00
1925 ...	2	Welsh Blacks	42	1 15 $\frac{1}{2}$	21.60	31.62
1926 ...	1	"	43	1 10 $\frac{1}{2}$	26.72	27.05
1933 ...	4	"	42	1 13 $\frac{1}{2}$	29.66	30.43
1924 ...	15	Ayrshires	27	2 0 $\frac{1}{2}$	22.65	32.40
1925 ...	31	"	33	1 14 $\frac{1}{2}$	26.60	31.60
1926 ...	26	"	35	2 3 $\frac{1}{2}$	24.66	36.61
1928 ...	25	"	36	2 3 $\frac{1}{2}$	25.69	36.38
1929 ...	18	"	37 $\frac{1}{2}$	2 1	29.53	33.43
1930 ...	21	"	54	2 2	27.02	34.05
1931 ...	21	"	35	2 4 $\frac{1}{2}$	27.20	36.19
1932 ...	22	"	35	2 3 $\frac{1}{2}$	28.72	36.58
1933 ...	12	"	34	2 3 $\frac{1}{2}$	25.84	35.83
1924 ...	16	Guernseys	84	1 9	22.30	29.08
1925 ...	18	"	100	1 8	22.10	29.41
1926 ...	14	"	100	1 11	21.99	32.73
1928 ...	10	"	110	1 13 $\frac{1}{2}$	21.75	35.34
1929 ...	10	"	84	2 0 $\frac{1}{2}$	24.17	37.16
1930 ...	12	"	49	1 14	27.14	32.42
1931 ...	20	"	96	1 13 $\frac{1}{2}$	24.80	34.35
1932 ...	12	"	80	1 11 $\frac{1}{2}$	26.09	31.23
1933 ...	20	"	87	1 11	25.28	30.95
1924 ...	32	Jerseys	132	1 15 $\frac{1}{2}$	17.75	38.11
1925 ...	24	"	135	1 13 $\frac{1}{2}$	18.61	38.60
1926 ...	25	"	126	1 14	19.39	37.61
1928 ...	22	"	136	2 2 $\frac{1}{2}$	17.09	43.50
1929 ...	22	"	145	1 13 $\frac{1}{2}$	19.86	37.94
1930 ...	22	"	37	1 14	15.09	37.61
1931 ...	18	"	108	2 4	19.90	42.39
1932 ...	27	"	113	2 0 $\frac{1}{2}$	20.34	37.76
1933 ...	24	"	87	2 2	21.18	38.05
1924 ...	10	Kerries	82	1 5	26.90	24.42
1925 ...	7	"	68	1 15 $\frac{1}{2}$	24.58	34.65
1926 ...	5	"	39	1 10 $\frac{1}{2}$	25.13	26.82
1928 ...	2	"	63	1 2 $\frac{1}{2}$	32.84	21.50
1929 ...	4	"	89	1 9	25.82	29.66
1930 ...	1	"	47	2 1	23.00	33.00
1931 ...	4	"	41	1 7	28.80	23.95
1932 ...	1	"	92	2 0 $\frac{1}{2}$	20.93	37.70
1924 ...	2	Dexters	78	1 7 $\frac{3}{4}$	23.01	20.35
1925 ...	3	"	118	1 5 $\frac{1}{2}$	25.40	29.22
1926 ...	3	"	102	1 4 $\frac{1}{2}$	27.97	25.56
1928 ...	5	"	79	1 5 $\frac{1}{2}$	25.49	25.55
1929 ...	4	"	112	1 6	25.51	29.04
1930 ...	5	"	35	1 5 $\frac{1}{2}$	26.45	23.89
1931 ...	5	"	106	0 14 $\frac{1}{2}$	29.70	21.07
1932 ...	5	"	153	1 1 $\frac{1}{2}$	26.67	25.67
1933 ...	7	"	109	1 0 $\frac{1}{2}$	28.01	23.50

TABLE III.—AVERAGE YIELD OF BUTTER OF THE DIFFERENT BREEDS SINCE 1923.

Year.	Breed.	No. of Cows.	Days in Milk, 50.	No. of Cows.	Days in Milk, 100.	No. of Cows.	Days in Milk, 135.	No. of Cows.	Days in Milk, 190.
			lbs. ozs.		lbs. ozs.		lbs. ozs.		lbs. ozs.
1924	Shorthorns ...	16	2 0	1	1 3 $\frac{1}{2}$	—	—	1	1 11
1925	" ...	12	1 12 $\frac{1}{2}$	2	0 15 $\frac{1}{2}$	—	—	1	2 3 $\frac{3}{4}$
1926	" ...	17	1 15 $\frac{1}{2}$	5	1 9 $\frac{1}{2}$	—	—	1	1 3
1928	" ...	9	1 5 $\frac{1}{2}$	6	1 0 $\frac{1}{2}$	5	1 1 $\frac{1}{2}$	—	—
1929	" ...	17	1 10 $\frac{1}{2}$	6	1 6	3	1 3 $\frac{1}{2}$	1	2 0 $\frac{1}{4}$
1930	" ...	10	1 7	1	1 13 $\frac{1}{2}$	3	1 7	1	1 8 $\frac{1}{4}$
1931	" ...	15	1 14 $\frac{1}{2}$	6	1 11 $\frac{1}{2}$	4	1 11	1	2 9 $\frac{1}{2}$
1932	" ...	19	1 7 $\frac{1}{2}$	5	1 9	—	—	—	—
1933	" ...	15	1 15	—	—	3	1 10	—	—
1924	Lincoln Reds ...	5	1 12 $\frac{1}{2}$	—	—	2	1 8 $\frac{1}{2}$	1	2 1
1925	" ...	8	2 2	2	1 14 $\frac{1}{2}$	—	—	—	—
1926	" ...	4	2 8 $\frac{1}{2}$	—	—	—	—	—	—
1928	" ...	4	2 2	—	—	—	—	—	—
1929	" ...	4	2 3 $\frac{1}{2}$	—	—	—	—	—	—
1930	" ...	4	2 3	2	2 3 $\frac{1}{2}$	2	1 10 $\frac{1}{2}$	—	—
1931	" ...	8	2 1 $\frac{1}{2}$	—	—	—	—	—	—
1932	" ...	5	1 10	—	—	—	—	—	—
1933	" ...	3	1 14 $\frac{1}{2}$	—	—	—	—	1	1 2 $\frac{1}{2}$
1924	British Friesians	14	2 0	7	1 6 $\frac{1}{2}$	—	—	2	—
1925	" ...	13	1 14	5	2 0 $\frac{1}{2}$	1	2 5 $\frac{1}{2}$	—	1 3 $\frac{1}{2}$
1926	" ...	15	2 4 $\frac{1}{2}$	6	2 3 $\frac{1}{2}$	3	1 8 $\frac{1}{2}$	1	2 4 $\frac{1}{2}$
1928	" ...	13	1 15	3	2 2 $\frac{1}{2}$	3	1 4 $\frac{1}{2}$	—	—
1929	" ...	15	1 14	1	2 12	—	—	—	—
1930	" ...	14	2 0	5	1 14 $\frac{1}{2}$	—	—	—	—
1931	" ...	15	2 3 $\frac{1}{2}$	—	—	1	1 10	—	—
1932	" ...	27	2 2	3	1 9 $\frac{1}{2}$	—	—	—	—
1933	" ...	18	2 5	1	1 15	—	—	—	—
1925	South Devons ...	1	3 2 $\frac{1}{2}$	—	—	—	—	1	1 13 $\frac{1}{2}$
1926	" ...	—	—	1	3 2 $\frac{1}{2}$	—	—	—	—
1928	" ...	1	2 14	1	1 9	—	—	—	—
1929	" ...	1	3 6	1	1 17	—	—	1	2 6 $\frac{1}{2}$
1930	" ...	6	2 3 $\frac{1}{2}$	—	—	—	—	—	—
1931	" ...	7	2 0 $\frac{1}{2}$	—	—	1	2 15 $\frac{1}{2}$	1	2 9 $\frac{1}{2}$
1932	" ...	9	1 12 $\frac{1}{2}$	7	1 14 $\frac{1}{2}$	1	2 0	2	1 14 $\frac{1}{2}$
1933	" ...	13	1 13	1	3 0	—	—	—	—
1925	Dairy South Devon	—	—	—	—	1	2 4 $\frac{1}{2}$	—	—
1928	" ...	—	—	1	2 6 $\frac{1}{2}$	3	2 2 $\frac{1}{2}$	1	3 12 $\frac{1}{2}$
1929	" ...	1	2 10 $\frac{1}{2}$	3	1 15	1	1 13 $\frac{1}{2}$	1	2 13 $\frac{1}{2}$
1930	" ...	3	2 3 $\frac{1}{2}$	1	1 9	1	2 3 $\frac{1}{2}$	1	2 3 $\frac{1}{2}$
1924	Devons ...	3	1 10 $\frac{1}{2}$	—	—	—	—	—	—
1925	" ...	7	1 15	—	—	—	—	—	—
1926	" ...	1	2 3 $\frac{1}{2}$	—	—	—	—	—	—
1928	" ...	—	—	—	—	—	—	1	1 1
1929	" ...	1	1 9	—	—	—	—	—	—
1930	" ...	—	—	1	0 9 $\frac{1}{2}$	—	—	1	1 8 $\frac{1}{2}$
1932	" ...	1	1 4	1	1 2	1	1 12	1	1 2 $\frac{1}{2}$
1924	Red Polls ...	10	1 10	2	1 4	1	1 7 $\frac{1}{2}$	4	1 3 $\frac{1}{2}$
1925	" ...	6	1 14 $\frac{1}{2}$	1	1 10 $\frac{1}{2}$	—	—	1	1 10 $\frac{1}{2}$
1926	" ...	10	1 10 $\frac{1}{2}$	4	1 11 $\frac{1}{2}$	2	1 13 $\frac{1}{2}$	1	1 9
1928	" ...	7	1 13	7	1 13	2	1 15 $\frac{1}{2}$	1	1 13
1929	" ...	9	1 9 $\frac{1}{2}$	4	1 8 $\frac{1}{2}$	—	—	—	—
1930	" ...	12	1 10 $\frac{1}{2}$	8	1 10	2	1 7	1	2 7
1931	" ...	9	1 15 $\frac{1}{2}$	2	1 9	—	—	—	2 6 $\frac{1}{2}$
1932	" ...	5	2 0 $\frac{1}{2}$	4	1 9 $\frac{1}{2}$	—	—	1	1 6 $\frac{1}{2}$
1933	" ...	5	1 12	9	1 9 $\frac{1}{2}$	1	1 8	—	—

TABLE III.—AVERAGE YIELD OF BUTTER OF THE DIFFERENT BREEDS SINCE 1923—Continued.

Year.	Breed.	No. of Cows.	Days in Milk, 50.	No. of Cows.	Days in Milk, 100.	No. of Cows.	Days in Milk, 135.	No. of Cows.	Days in Milk, 190.
			lbs. ozs.		lbs. ozs.		lbs. ozs.		lbs. ozs.
1924	Blue Albions ...	3	1 15 $\frac{1}{2}$	1	1 15	—	—	—	—
1925	" ...	4	2 3	1	1 8	—	—	—	—
1926	" ...	3	1 14 $\frac{1}{2}$	—	—	1	1 12 $\frac{1}{2}$	—	—
1929	" ...	2	1 13 $\frac{1}{2}$	—	—	—	—	—	—
1930	" ...	1	2 8 $\frac{1}{2}$	—	—	—	—	—	—
1931	" ...	1	1 10	—	—	—	—	—	—
1925	Welsh Blacks ...	2	1 15 $\frac{1}{2}$	—	—	—	—	—	—
1926	" ...	1	1 10 $\frac{1}{2}$	—	—	—	—	—	—
1933	" ...	3	2 2	1	1 12	—	—	—	—
1924	Ayrshires ...	15	2 0 $\frac{1}{2}$	—	—	—	—	—	—
1925	" ...	27	1 14 $\frac{1}{2}$	4	1 14 $\frac{1}{2}$	—	—	—	—
1926	" ...	21	2 3 $\frac{1}{2}$	4	2 4 $\frac{1}{2}$	1	2 7 $\frac{1}{2}$	—	—
1928	" ...	21	2 4 $\frac{1}{2}$	3	1 13 $\frac{1}{2}$	1	2 0 $\frac{1}{2}$	—	—
1929	" ...	14	2 2	4	1 15	—	—	—	—
1930	" ...	20	2 2 $\frac{1}{2}$	1	1 10 $\frac{1}{2}$	—	—	—	—
1931	" ...	18	2 4 $\frac{1}{2}$	3	1 14 $\frac{1}{2}$	—	—	—	—
1932	" ...	19	2 3 $\frac{1}{2}$	2	2 9	1	2 2	—	—
1933	" ...	10	2 2 $\frac{1}{2}$	2	2 8	—	—	—	—
1924	Guernseys ...	8	1 8 $\frac{3}{4}$	2	1 9 $\frac{3}{4}$	3	1 6 $\frac{1}{4}$	3	1 10 $\frac{3}{4}$
1925	" ...	6	1 7 $\frac{1}{4}$	2	1 5 $\frac{1}{4}$	3	1 10	2	1 8 $\frac{1}{4}$
1926	" ...	2	2 6 $\frac{1}{4}$	5	1 5 $\frac{3}{4}$	4	1 13 $\frac{1}{4}$	2	1 8
1928	" ...	3	1 14 $\frac{1}{2}$	3	2 0 $\frac{1}{2}$	1	1 11	1	2 3 $\frac{1}{2}$
1929	" ...	4	2 0 $\frac{1}{2}$	3	2 8 $\frac{1}{2}$	1	1 15	2	1 7
1930	" ...	5	1 10 $\frac{1}{2}$	5	2 1 $\frac{1}{4}$	—	—	1	1 13 $\frac{1}{2}$
1931	" ...	4	1 13 $\frac{1}{4}$	9	1 13 $\frac{1}{4}$	3	1 11 $\frac{1}{4}$	2	1 8 $\frac{1}{4}$
1932	" ...	5	1 8	3	1 8	2	2 4	2	1 14 $\frac{1}{4}$
1933	" ...	8	1 14 $\frac{1}{4}$	5	1 12 $\frac{1}{2}$	4	1 7	1	0 14 $\frac{1}{4}$
1924	Jerseys ...	2	1 10 $\frac{1}{2}$	6	1 11 $\frac{1}{2}$	7	1 15 $\frac{1}{2}$	17	1 14
1925	" ...	4	1 13 $\frac{1}{2}$	5	2 1 $\frac{1}{2}$	4	1 6	5	2 0 $\frac{1}{2}$
1926	" ...	2	2 0 $\frac{3}{4}$	7	1 11 $\frac{1}{2}$	7	1 12 $\frac{1}{2}$	7	1 15 $\frac{1}{2}$
1928	" ...	2	2 11 $\frac{1}{2}$	2	2 6 $\frac{1}{2}$	7	2 2 $\frac{1}{2}$	8	2 1 $\frac{1}{2}$
1929	" ...	2	1 8	5	2 2 $\frac{1}{2}$	—	—	9	1 11
1930	" ...	3	1 15 $\frac{1}{2}$	7	1 15 $\frac{1}{2}$	4	1 15	9	1 14 $\frac{1}{2}$
1931	" ...	5	2 7 $\frac{1}{2}$	3	2 4	4	2 1	5	2 4
1932	" ...	5	2 1	7	2 3 $\frac{1}{2}$	6	2 3	7	1 12 $\frac{1}{2}$
1933	" ...	10	2 1 $\frac{1}{2}$	3	2 3 $\frac{1}{2}$	7	2 1	2	2 7
1924	Kerries ...	2	1 10 $\frac{1}{4}$	6	1 2 $\frac{3}{4}$	1	1 8 $\frac{1}{2}$	1	1 4
1925	" ...	5	2 3	—	—	—	—	2	1 5 $\frac{1}{2}$
1926	" ...	4	1 12 $\frac{1}{4}$	1	1 2 $\frac{1}{2}$	—	—	—	—
1928	" ...	1	0 15 $\frac{1}{4}$	—	—	1	1 5	—	—
1929	" ...	1	2 3 $\frac{1}{4}$	3	1 5 $\frac{1}{4}$	—	—	—	—
1930	" ...	1	2 1	—	—	—	—	—	—
1931	" ...	2	1 8 $\frac{1}{2}$	2	1 6	—	—	—	—
1932	" ...	—	—	1	2 0 $\frac{1}{2}$	—	—	—	—
1924	Dexters ...	1	0 13 $\frac{1}{2}$	—	—	1	1 2	—	—
1925	" ...	1	1 10 $\frac{1}{4}$	—	—	—	—	2	1 3 $\frac{1}{4}$
1926	" ...	1	1 2 $\frac{3}{4}$	1	1 3 $\frac{1}{4}$	—	—	1	1 6 $\frac{1}{4}$
1928	" ...	1	1 4	3	1 7 $\frac{3}{4}$	—	—	1	1 0 $\frac{1}{4}$
1929	" ...	—	—	2	1 8 $\frac{1}{2}$	—	—	2	1 3 $\frac{1}{2}$
1930	" ...	3	1 6	1	1 5 $\frac{1}{2}$	1	1 5	—	—
1931	" ...	—	—	2	1 0 $\frac{1}{2}$	2	1 0	1	0 8
1932	" ...	—	—	—	—	3	1 2	1	1 2 $\frac{1}{4}$
1933	" ...	1	1 0 $\frac{1}{2}$	1	0 11	1	1 7	3	1 0 $\frac{1}{4}$

BUTTER TESTS—SHORTHORNS.

No. in Catalogue	Exhibitor	Name of Animal	Live Weight lbs.	Date of Birth	Date of last Calf 1933	No. of Days in Milk	Milk Yield				Butter Yield lbs., ozs.	Ratio, viz., lbs. Milk to lbs. Butter	Colour and Quality of Butter		No. of Points for Butter	No. of Points for Lactation	Total Number of Points	Awards.
							Morn.	Aft.	Even.	Total			Colour	Quality				
							lbs.	lbs.	lbs.	lbs.								
1	Major-Gen. Lord Leach	Stellar 5th	1448	Mar. 17, 1927	Sept. 26	22	23.0	22.6	23.6	69.2	1 0½	43.52	Good	Fair	25.5	—	25.5	
5	J. W. Smith & Son	Kentish Honey Jean	1424	Feb. 28, 1927	June 24	116	23.2	29.4	27.3	79.9	2 0½	38.08	V.Good	V.Good	32.75	7.6	40.35	H.C.
6	Major G. Miller	Redrice Darling	1276	July 17, 1928	Oct. 1	17	18.9	19.0	17.1	55.0	2 8	22.0	Fair	Fair	40.00	—	40.00	H.C.
9	M. Perkins	Holmelay Daisy 2nd	1592	June 27, 1926	Sept. 26	22	24.8	22.3	22.8	69.9		Disq.						
10	A. T. Lloyd	Kelnascott Hester 2nd	1533	Oct. 18, 1923	Oct. 1	17	20.8	23.2	20.1	64.1	2 1½	23.57	Pale	Fair	43.50	—	43.50	3rd Prize
14	W. H. Vigus	Sweet Violet 5th	1228	July 1, 1926	July 21	89	26.3	27.2	20.2	73.7		Disq.						
18	J. Crowe	Budbrooke Lass 2nd	1246	July 23, 1927	Oct. 1	17	21.8	21.7	22.0	65.5	2 9	25.59	V.Good	V.Good	41.00	—	41.00	Reserve
20	Capt. A. S. Willis	Thorby Foggarthorpe 30th	1350	June 16, 1927	July 3	107	19.4	18.5	21.9	59.8	1 15	30.82	Pale	Good	31.00	6.7	37.70	H.C.
22	C. J. Allday	Fothering Lady	1133	Mar. 23, 1930	Sept. 27	21	17.6	17.4	17.5	52.5	1 1½	30.52	Good	Good	27.50	—	27.50	
23	J. & G. Howarth	Dupplin Winson 4th	1500	Feb. 19, 1930	Sept. 27	21	11.2	18.1	13.4	42.7	1 2	38.13	Good	Fair	18.00	—	18.00	
26	M. Perkins	Holmelay Lass 5th	1241	Sept. 10, 1928	Sept. 12	36	20.9	20.6	19.7	61.2	1 14½	31.71	Pale	Soft	30.75	—	30.75	H.C.
30	J. Timberlake	Hastoe Beauty	1228	Feb. 16, 1930	Sept. 30	18	19.1	20.6	19.0	58.7	1 6½	41.63	Good	Good	22.50	—	22.50	
31	Capt. A. S. Willis	Thorby Bar-rington Duchess 3rd	1231	Dec. 23, 1929	Sept. 29	19	19.0	18.5	19.1	56.6	1 2½	48.79	Good	Good	18.75	—	18.75	
32	C. A. Chillingworth	Siddington Grace 2nd	1448	Dec. 11, 1928	Sept. 30	18	25.0	23.0	24.4	72.4	2 14	25.14	Pale	V.Good	46.00	—	46.00	2nd Prize
55	J. Crowe	Oxford Rosette	970	May 13, 1931	Oct. 2	16	14.1	12.1	11.9	38.1	1 1½	34.64	Good	Ex.	17.25	—	17.25	
56	J. Crowe	Bianca Belle	1006	Feb. 5, 1931	May 6	165	8.3	8.3	9.3	25.9	14½	28.46	Fair	V.Good	14.50	12.0	26.50	H.C.
61	Capt. N. Milne Harrop	Gwersyllt Duchess 6th	1532	Nov. 18, 1928	Sept. 5	43	24.4	25.3	24.2	73.9	2 1½	35.36	Fair	Good	33.50	0.3	33.80	H.C.

BUTTER TESTS—SHORTHORNS—Continued.

No. in Catalogue	Exhibitor	Name of Animal	Live Weight lbs.	Date of Birth	Date of last Calf 1933	No. of Days in Milk	Milk Yield				Butter Yield lbs. ozs.	Ratio, viz., lbs. Milk to lbs. Butter	Colour and Quality of Butter		No. of Points for Butter	No. of Points for Lactation	Total Number of Points	Awards.
							Morn. lbs.	Aft. lbs.	Even. lbs.	Total lbs.			Colour	Quality				
62	T. B. Bucknell	Snowball	1350	Dec. 1927	Oct. 1	17	17.8	20.5	17.7	56.0	3 4	17.23	Pale	Oily	52.00	—	52.00	1st Prize
67	J. Crowe	Dairy Girl	1126	— 1924	Sept. 4	44	19.4	19.6	19.3	58.3	2 0	20.15	Good	Fair	32.00	0.4	32.40	
68	Sir Mark Collet, Bart.	Snowdrop 2nd	1402	Sept. 23, 1927	Sept. 3	45	15.9	15.0	14.6	45.5	1 31	38.24	V. Pale	Good	19.25	0.5	19.75	
83	F. Sainsbury	Bendish Queen 4th	1552	Mar. 7, 1927	Oct. 1	17	25.7	24.3	24.8	74.8	2 91	28.88	Good	Ex.	41.50	—	41.50	4th Prize
86	J. Evens & Son	Burton Royal Starlight 13th	1500	April 20, 1927	May 10	161	16.0	13.8	17.0	46.8	1 24	40.70	Good	Oily	18.50	12.0	30.50	
87	J. Evens & Son	Burton Beauty 12th	1501	Feb. 17, 1929	Oct. 1	17	20.4	17.1	18.1	55.6	2 24	25.02	Fair	Good	34.75	—	34.75	H.C.
88	J. Evens & Son	Bracebridge Coral 5th	1324	April 5, 1928	Sept. 15	33	17.3	12.0	18.0	47.3	14 1/2	50.86	Fair	Fair	14.75	—	14.75	

BUTTER TESTS—SHORTHORNS—Continued.

CHURNING—TIME AND TEMPERATURE							
No. in Catalogue.	Name of Animal.	Time		Duration of Churning	Temperature °F.		
		Churning began	Churning finished		Dairy	Cream and Churn	
							Minutes	Degrees
1	Stellar 5th	8 55 a.m.	9 25 a.m.	30	56	52	54
5	Kentish Honey Jean	9 0 "	9 53 "	44	56	52	56
6	Kedric Darling 2nd	9 0 "	9 14 "	14	56	52	54
9	Hornelacy Daisy 23rd	8 55 "	9 16 "	21	56	52	56
10	Kelmscott Hester 23rd	10 28 "	10 55 "	27	56	52	56
14	Sweet Violet 5th	9 10 "	9 41 "	31	56	52	56
18	Budbrooke Lass 2nd	9 10 "	9 23 "	13	56	52	56
20	Thornaby Foggathorpe 30th	9 5 "	9 21 "	16	56	52	54
22	Polterring Lady Foggathorpe	8 54 "	9 10 "	16	56	52	54
23	Dupplin Winsona 4th	9 15 "	9 30 "	15	56	52	53
26	Hornelacy Lily 5th	9 14 "	9 39 "	25	58	52	56
30	Hastor Beauty 7th	9 15 "	9 34 "	19	58	52	54
31	Thornaby Barrington Duchess 3rd	9 16 "	9 24 "	24	56	52	55
32	Sidcliffworth Grace 2nd	9 52 "	10 54 "	17	63	52	53
33	Oxford Rosette	9 31 "	10 54 "	23	60	52	56
55	Bianca Belle	9 20 "	10 16 "	41	60	52	58
56	Groversville Duchess 6th	10 19 "	10 46 "	27	65	52	56
61	Snowball	10 4 "	10 24 "	20	64	52	55
62	Dairy Girl	10 17 "	10 43 "	26	65	52	55
67	Snowdrop 2nd	9 32 "	9 52 "	20	61	52	56
68	Bendish Queen 4th	9 55 "	10 14 "	19	63	52	55
83	Burton Royal Starlight 13th	9 36 "	10 0 "	24	62	52	56
86	Burton Beauty 12th	11 26 "	11 50 "	24	66	52	56
87	Bracebridge Coral 5th	9 55 "	10 24 "	29	63	52	58

BUTTER TESTS—BRITISH FRIESIANS.

No. in Catalogue	Exhibitor	Name of Animal	Live Weight lbs.	Date of Birth	Date of last Calf 1933	No. of Days in Milk	Milk Yield				Butter Yield lbs. ozs.	Ratio, viz., Milk to lbs. Butter	Colour and Quality of Butter.		No. of Points for Butter	No. of Points for Lactation	Total Number of Points	Awards
							Morn. lbs.	Aft. lbs.	Even. lbs.	Total lbs.			Colour	Quality				
97	W. Twentynan	Winchester Audrey	1466	Sept. 12, 1927	Oct. 1	17	24.6	26.2	25.8	76.6	3 1½	24.79	Good	V. Good	49.5	—	49.5	3rd Prize
102	Lord Rayleigh	Tedling Skylark 18th	1319	Sept. 18, 1924	Aug. 28	51	31.7	29.7	31.5	92.9	2 14½	31.71	Pale	Good	46.75	1.1	47.85	Reserve
103	Strutt & Parker (Farms), Ltd.	Lavenham Present 8th	1470	Dec. 21, 1924	Sept. 22	26	24.1	22.7	21.5	68.3	2 11½	25.20	V. Pale	Poor	43.25	—	43.25	H.C.
104	Strutt & Parker (Farms), Ltd.	Lavenham Wallen 18th	1476	April 6, 1927	Sept. 13	35	40.4	30.3	28.6	99.3	3 3¼	30.65	Pale	Fair	51.75	—	51.75	2nd Prize
108	G. J. Catley	Hinton Auntie	1294	April 8, 1925	Sept. 29	19	27.1	28.8	25.0	80.9	2 11½	29.85	Good	Fair	43.25	—	43.25	H.C.
111	W. J. Newman	Burnham Snow- shoes	1478	Oct. 26, 1924	Sept. 30	18	13.7	17.4	16.3	47.4	2 7½	19.27	V. Pale	Oily	39.25	—	39.25	H.C.
115	F. N. Terry	Winterbourne Audirrhun	1518	June 14, 1926	Sept. 19	29	28.4	27.5	23.2	79.1	—	Disq.	—	—	—	—	—	4th Prize
117	J. Martin	Netherhall Humbly	1444	Sept. 28, 1925	Sept. 24	24	27.4	27.2	27.5	82.1	3 0½	26.92	V. Pale	Poor	48.75	—	48.75	4th Prize
119	W. H. Trick	Shapwick Stella	1376	Sept. 6, 1925	Sept. 20	28	26.9	27.0	29.9	83.8	2 3½	37.92	Good	Good	35.25	—	35.25	H.C.
120	Miss E. M. Smith	Tedling Torch 37th	1296	Jan. 22, 1926	Sept. 14	34	29.3	25.7	24.5	79.5	3 4½	24.09	Good	Fair	52.75	—	52.75	1st Prize
121	Capt. J. Christie	Glyndebourne Disley 2nd	1396	Nov. 24, 1928	Oct. 1	17	25.5	26.2	26.7	78.4	2 4	34.84	Good	Good	36.00	—	36.00	H.C.
123	Lord Rayleigh	Harperdauns Baby 3rd	1367	June 21, 1930	Sept. 15	33	25.8	23.4	24.2	73.4	2 0½	36.34	Pale	Good	32.25	—	32.25	H.C.
125	W. J. Newman	Burnham Watten 2nd	1212	Feb. 2, 1929	Sept. 9	39	17.5	19.7	18.6	55.8	1 0	55.8	Pale	Poor	16.00	—	16.00	H.C.
127	Piddington Estates, Ltd.	Piddington Diana 2nd	1317	April 16, 1929	Sept. 21	27	24.9	19.4	25.3	69.6	2 4	30.93	Good	Good	36.00	—	36.00	H.C.
131	W. Turner	Hawthorn Mavis	1154	April 7, 1929	Oct. 1	17	22.0	27.8	24.3	74.1	—	Disq.	—	—	—	—	—	H.C.
132	J. H. Brown	Marshgreen Kathleen	1450	Sept. 6, 1929	Sept. 24	24	22.4	25.6	22.0	70.0	2 12½	25.27	Good	Good	44.50	—	44.50	H.C.
137	T. Brown	Haslington Juliana	1282	Oct. 4, 1928	Sept. 16	32	28.9	27.9	32.4	89.2	—	Disq.	—	—	—	—	—	H.C.

BUTTER TESTS—BRITISH PRIESTS—Continued.

No. in Catalogue	Exhibitor	Name of Animal	Live Weight lbs.	Date of Birth	Date of last Calf 1933	No. of Days in Milk	Milk Yield				Butter Yield lbs. ozs.	Ratio, viz., lbs. Milk to lbs. Butter	Colour and Quality of Butter		No. of Points for Butter	No. of Points for Lactation.	Total Number of Points	Awards
							Morn. lbs.	Aft. lbs.	Even. lbs.	Total lbs.			Colour	Quality				
138	T. Brown	...	1598	Jan. 2, 1929	Sept. 27	21	28.7	26.8	28.9	84.4	1 143	43.73	Good	Fair	30.75	—	30.75	H.C.
141	J. G. Stapleton	Kathleen Blinscott Mist	1078	April 13, 1931	Sept. 29	19	13.7	14.5	13.7	41.9		Dispt.			30.75	—	30.75	H.C.
143	Piddington	Pestus Daisy	1210	Oct. 19, 1930	Sept. 14	34	19.8	18.9	17.2	55.9	2 1	27.14	V. Good	V. Good	33.00	—	33.00	H.C.
144	Piddington	Lady Carrie	1204	Sept. 17, 1930	Sept. 14	34	16.9	17.1	13.5	47.5	1 43	37.40	Good	Good	20.25	—	20.25	H.C.
153	J. & B. M. Dale	Felhaupen	1248	Feb. 1, 1931	Sept. 26	22	16.8	15.2	15.2	47.2	1 131	25.79	Fair	V. Good	20.25	—	20.25	H.C.
155	F. J. Carter	Penelope Pearl 6th	1166	Feb. 3, 1931	Sept. 19	29	19.3	18.6	21.1	59.0	1 111	34.30	V. Pale	V. Good	27.50	—	27.50	H.C.

BUTTER TESTS—BRITISH FRIESIANS—Continued.

No. in Cata-	Name of Animal.	CHURNING—TIME AND TEMPERATURE				
		Time		Dairy	Temperature °F.	
		Churning began	Churning finished		Cream and Churn	Buttermilk when churning finished
				Degrees	Degrees	Degrees
97	Winchester Audrey	12 0 noon	12 24 p.m.	66	52	55
102	Torling Skylark 18th	10 6 a.m.	10 41 a.m.	64	52	56
103	Lavenham Present 8th	10 35 "	11 5 "	66	52	54
104	Lavenham Wallen 18th	10 25 "	10 50 "	66	52	55
108	Hinton Auntie "	10 25 "	10 45 "	66	52	56
111	Burham Snowshoes	10 30 "	10 50 "	66	52	56
115	Winterbourne Antirrhinum	10 24 "	10 44 "	66	52	58
117	Netherhall Humbug	10 43 "	11 0 "	66	52	53
119	Shapwick Stella	10 58 "	11 30 "	66	52	56
120	Torling Torch 37th	10 52 "	11 11 "	66	52	56
121	Glyndebourne Disley 2nd	10 53 "	11 19 "	66	52	55
123	Harperadams Baby 3rd	10 45 "	11 6 "	66	52	55
125	Burham Wallen 2nd	10 32 "	11 5 "	66	52	56
127	Piddington Diana 2nd	11 7 "	11 45 "	66	52	56
131	Hawthorn Mavis	10 50 "	11 14 "	66	52	57
132	Marshgreen Kathleen	12 22 p.m.	12 40 p.m.	66	52	55
137	Haslington Juliana	11 40 a.m.	12 17 "	66	52	58
138	Haslington Kathleen	11 1 "	11 43 a.m.	66	52	56
141	Emiscott Mist	10 42 "	11 0 "	66	52	57
143	Piddington Festus Daisy	11 20 "	11 42 "	66	52	54
144	Piddington Lady Carrie	11 3 "	11 23 "	66	52	56
153	Felhampton Penelope	12 20 p.m.	12 35 p.m.	66	52	55
155	Chelmstord Pearl 6th	11 35 a.m.	11 50 a.m.	66	52	58

BUTTER TESTS—SOUTH DEVONS.

No. in Catalogue	Exhibitor	Name of Animal	Live Weight Lbs.	Date of Birth	Date of last Calf 1933	No. of Days in Milk	Milk Yield				Butter Yield Lbs. avo.	Ratio, viz., Lbs. Milk to Lbs. Butter	Colour and Quality of Butter		No. of Points for Butter	No. of Points for Lactation	Total Number of Points	Awards.	
							Morn. Lbs.	Aft. Lbs.	Even. Lbs.	Total Lbs.			Colour	Quality					
156	Dartington Hall Ltd.	Dartington Hall Myrtle	1569	Jan. 28, 1926	Sept. 7	41	20.5	18.8	17.8	57.1	2	14	27.45	Ex.	V. Good	33.25	0.1	33.35	
157	Dartington Hall Ltd.	Englebourne Daisy 7th	1672	April 28, 1926	Aug. 31	48	13.7	14.1	15.6	43.4	1	61	30.78	Ex.	Fair	22.50	0.8	23.30	
158	Dartington Hall Ltd.	Dartington Vera 10th	1347	Mar. , 1927	Sept. 21	27	18.8	17.4	16.2	52.4	1	133	28.48	V. Good	Good	29.50	—	29.50	
162	Miss J. Smith ...	Sandwell Hilary	1400	Oct. 27, 1927	Aug. 16	63	22.3	18.0	18.7	59.0	3	0	19.67	V. Good	V. Good	48.00	2.3	50.30	1st Prize
163	T. Willing ...	Countess ...	1834	Aug. 6, 1924	Sept. 10	38	14.9	21.8	20.3	57.0	1	61	40.71	Good	Good	22.25	—	22.25	
164	G. Wills ...	Milkmaid 14th	1538	Sept. 4, 1919	Sept. 25	23	13.4	8.1	16.5	38.0	1	123	21.11	Ex.	V. Good	28.75	—	28.75	
166	G. Wills ...	Milkmaid 9rd ...	1784	Oct. 3, 1920	Sept. 30	18	17.8	17.7	18.1	53.6	2	81	21.27	Ex.	V. Good	40.25	—	40.25	2nd Prize
167	Dartington Hall Ltd.	Ferry Primula ...	1400	Aug. 24, 1920	Sept. 23	25	19.8	16.6	21.0	57.4	2	43	25.18	V. Good	V. Good	36.25	—	36.25	3rd Prize
170	Dartington Hall Ltd.	Freda 3rd	1168	Oct. 10, 1920	Sept. 26	22	17.9	15.8	14.9	48.6	1	24	42.63	V. Good	Good	18.25	—	18.25	
171	R. W. Chaffe ...	Worswell Patience 3rd	1082	Oct. 13, 1928	Sept. 4	44	18.3	18.5	18.9	55.7	1	123	31.29	V. Good	Good	28.50	0.4	28.90	Reserve
172	Miss J. Smith ...	Crocus ...	1600	April 6, 1920	Sept. 1	47	16.8	15.9	16.2	48.9	2	23	30.07	V. Good	V. Good	34.0	0.7	34.70	4th Prize
173	Miss J. Smith ...	Sandwell Geranium	1508	Aug. , 1928	Sept. 28	20	16.6	14.4	15.2	46.2	1	113	26.55	Ex.	Good	27.75	—	27.75	
175	J. Wakeham ...	Rowden Poly 2nd	1577	Nov. 3, 1920	Sept. 18	30	18.7	18.4	17.6	54.7	1	104	33.15	Ex.	Good	26.25	—	26.25	
183	G. Wills ...	Hawthorn 9th ...	1220	Sept. 1, 1930	Sept. 12	36	12.6	12.4	12.2	37.2	1	53	27.76	Ex.	Ex.	21.50	—	21.50	

BUTTER TESTS—SOUTH DEVONS—Continued.

No. in Catalogue.	Name of Animal.	CHURNING—TIME AND TEMPERATURE					
		Time		Duration of Churning Minutes	Dairy Degrees	Cream and Churn Degrees	Buttermilk when churning finished Degrees
		Churning began	Churning finished				
156	Darlington Hall Myrtle	11 48 a.m.	12 12 p.m.	24	66	52	55
157	Englebourne Daisy 7th	11 16 "	11 40 a.m.	24	66	52	56
158	Darlington Vera 10th	11 29 "	11 48 "	19	66	52	56
162	Sandwell Hillary	11 38 "	12 5 p.m.	27	66	52	56
163	Countess	11 22 "	11 43 a.m.	21	66	52	56
164	Milkmaid 14th	11 18 "	11 35 "	17	66	52	55
166	Milkmaid 3rd	12 12 p.m.	12 44 p.m.	32	66	52	56
167	Ferry Prinnula	12 10 noon	12 30 "	30	66	52	56
170	Darlington Freda 3rd	11 45 a.m.	12 0 noon	15	66	52	56
171	Worswell Patience 3rd	11 35 "	12 0 noon	25	66	52	57
172	Crocus	12 10 p.m.	12 40 p.m.	30	66	52	56
173	Sandwell Geranium	11 45 a.m.	12 0 noon	15	66	52	56
175	Rowstern Polly 2nd	12 10 p.m.	12 48 p.m.	28	66	52	56
183	Hawthorn 9th	12 20 "	12 43 "	17	66	52	56

BUTTER TESTS—RED POLLS—Continued.

No. in Catalogue.	Name of Animal.	CHURNING—TIME AND TEMPERATURE				
		Time		Temperature °F.		
		Churning began	Churning finished	Duration of Churning	Dairy	Buttermilk when churning finished
				Minutes	Degrees	Degrees
184	Capel Buttercup	12 0 noon	12 52 p.m.	52	66	56
185	Grantcourt's Tenderness	12 29 p.m.	12 55 "	26	66	58
187	Knepp Prudence 7th	12 12 "	12 45 "	33	66	56
180	Weston Peggy	12 5 "	12 28 "	23	66	56
191	Seven Springs Quintal	12 9 "	12 28 "	19	66	58
192	Holton Rainbow 6th	9 43 a.m.	10 12 a.m.	30	63	54
193	Yoxford Delight	12 35 p.m.	12 55 p.m.	20	66	56
194	Ranksborough Fly	10 7 a.m.	10 52 a.m.	45	64	56
195	Knepp Prudence 11th	12 26 p.m.	12 47 p.m.	21	66	57
196	Ashmoor Briony	9 7 a.m.	9 45 a.m.	38	56	56
198	White Hill Charming Delight	9 48 "	10 16 "	28	63	56
199	White Hill Red Briar	10 13 "	10 58 "	45	65	57
201	Sanford Witchgirl	9 13 "	9 34 "	21	56	56
204	Ranksborough Rosie	9 41 "	10 21 "	40	52	56
206	White Hill Fair Flighty	9 12 "	9 33 "	21	56	55
207	White Hill Reckless	12 35 p.m.	1 0 p.m.	25	66	57

BUTTER TESTS—AYRSHIRES.

No. in Catalogue	Exhibitor	Name of Animal	Live Weight lbs.	Date of Birth	Date of last Calf 1933	No. of Days in Milk	Milk Yield				Butter Yield lbs. ozs.	Ratio to lbs. Butter viz., lbs. Milk to lbs. Butter	Colour and Quality of Butter.		No. of Points for Butter	No. of Points for Lactation	Total Number of Points	Awards
							Morn. lbs.	Aft. lbs.	Even. lbs.	Total lbs.			Colour	Quality				
218	J. Turner	Loaninghead May	1182	April 4, 1927	Sept. 11	37	23.5	23.3	23.2	70.0	2 7 $\frac{1}{2}$	28.11	Pale	Soft	39.75	—	39.75	Reserve
220	J. A. Brown	Coruiston Tomors Brownie	1272	Mar. 8, 1927	Aug. 28	51	20.2	20.5	20.4	88.1	3 2 $\frac{1}{2}$	27.79	Good	Oily	50.75	1.1	51.85	2nd Prize
221	Capt. W. B. Dransfield	Newlands Shine	1210	April 17, 1924	Sept. 17	31	18.1	17.5	13.0	48.6	1 3 $\frac{1}{2}$	30.19	V. Pale	Fair	10.75	—	19.75	
222	A. W. Mont-gomerie	Lessnessnock Redrose 6th	1329	Mar. 4, 1926	Aug. 20	50	22.4	24.3	23.5	70.2	2 7 $\frac{1}{2}$	28.19	Good	Good	39.75	1.0	40.75	4th Prize
223	A. W. Mont-gomerie	Pickens Nannie	1200	Feb. 23, 1925	Aug. 23	56	19.1	19.6	16.9	55.6	1 13 $\frac{1}{2}$	30.22	Good	Good	20.50	1.6	31.10	
226	M. Sloan	Hunterhouse Lena	1221	Nov. 18, 1927	Oct. 1	17	16.7	15.2	14.8	46.7	3 4 $\frac{1}{2}$	14.28	Good	Ex.	52.25	—	52.25	1st Prize
220	Eshott Pedgeree Stud Farm	Newlands Sophie	1458	Oct. 15, 1927	Sept. 29	19	23.5	23.1	19.5	66.1	3 1 $\frac{1}{2}$	21.46	Pale	Fair	40.25	—	40.25	3rd Prize
230	Viscount Astor	Muncraig Soucie	1239	Dec. 6, 1926	Sept. 29	19	21.0	19.6	19.8	60.4	1.14	32.13	Pale	Fair	30.00	—	30.00	
232	J. N. Drummond	Bargower Miss Donald 6th	1043	Jan. 5, 1931	Sept. 20	28	17.9	17.8	16.1	51.8	2 0 $\frac{1}{2}$	25.64	V. Good	Fair	32.25	—	32.25	H.C.
235	A. W. Mont-gomerie	Lessnessock Snowball 11th	1154	Feb. 19, 1931	Sept. 22	20	12.0	13.5	12.9	38.4	1 7 $\frac{1}{2}$	26.30	Good	Good	23.25	—	23.25	H.C.
237	J. & J. McKintyre	Logan Mains Annie Laurie 4th	932	Dec. 10, 1930	Sept. 15	33	11.5	10.8	8.1	30.4	1 9	10.49	V. Pale	Good	25.00	—	25.00	H.C.
242	John Wallace	Low Ersoch Mail 2nd	1107	Mar. 6, 1931	Sept. 15	33	18.6	17.1	16.6	52.3	2 2 $\frac{1}{2}$	24.10	Pale	Ex.	34.75	—	34.75	H.C.

BUTTER TESTS—AYRSHIRES—Continued.

No. in Cata-	Name of Animal.	CHURNING—TIME AND TEMPERATURE					
		Time			Temperature °F.		
		Churning began	Churning finished	Duration of Churning	Dairy	Cream and Churn	Buttermilk when churning finished
				Minutes	Degrees	Degrees	Degrees
218	Loaninghead May	3 12 p.m.	3 30 p.m.	27	66	52	57
220	Cornistoun Towers Brownie	2 17 "	2 45 "	28	66	52	56
221	Newlands Sunshine	2 18 "	2 48 "	30	66	52	55
222	Lessnessock Redrose-6th	2 18 "	2 35 "	17	66	52	55
223	Pickens Nannie	2 25 "	3 23 "	58	66	52	58
226	Hunterhouse Lena	2 24 "	2 36 "	12	66	52	54
229	Newlands Sophie	2 22 "	2 47 "	25	66	52	56
230	Muncraig Soucie	2 20 "	2 35 "	15	66	52	56
232	Bargower Miss Donald 6th	2 25 "	2 40 "	15	66	52	56
235	Lessnessock Snowball 11th	3 0 "	3 30 "	30	66	52	56
237	Logan Mains Annie Laurie	2 20 "	2 37 "	17	66	52	56
242	Low Ersoch Muil 2nd	3 2 "	3 32 "	30	66	52	56

BUTTER TESTS—GUERNSEYS.

No. in Catalogue	Exhibitor	Name of Animal	Live Weight lbs.	Date of Birth	Date of last Calf 1933	Milk Yield			Butter Yield lbs ozs	Ratio, viz., lbs. Milk to lbs. Butter	Colour and Quality of Butter		No. of Points for Butter	No. of Points for Lactation	Total Number of Points	Awards
						Morn. lbs.	Aft. lbs.	Even. lbs.			Colour	Quality				
244	Sir Louis Baron, Bt.	Rose of l'Islet ...	1032	June 9, 1926	Sept. 17 '31	22.7	22.2	23.1	68.0	2 1 $\frac{1}{2}$ 32.54	V. Good	V. Good	33.50	—	33.50	H.C.
245	Capt. H. J. Pillbrow	Valence Laven- der 2nd	992	Aug. 24, 1927	Sept. 9 '30	19.1	19.1	20.5	58.7	2 14 $\frac{1}{2}$ 20.24	Ex.	Ex.	46.25	—	46.25	1st Prize
246	H. E. Crawford	Eswelle Joyful	1060	Jan. 30, 1927	Feb. 6 '254	17.9	15.3	13.6	46.8	1 12 $\frac{3}{4}$ 26.00	Ex.	Ex.	28.75	12.0	40.75	3rd Prize
248	E. D. Fair- weather ...	Trevoeth Wall- flower	1064	June 4, 1927	Oct. 1 '17	17.0	15.3	16.1	48.4	2 3 $\frac{1}{2}$ 21.90	Ex.	Ex.	35.25	—	35.25	H.C.
249	H. H. Scott ...	Queen of North Valley	1120	July 29, 1923	June 26 '14	15.9	15.5	16.1	47.5	2 0 $\frac{1}{2}$ 19.79	Ex.	V. Good	38.50	7.4	45.90	2nd Prize
251	Mrs. Jervoise ...	Princess 7th of the Bolles	1108	Oct. 30, 1921	July 16 '94	18.3	14.7	14.7	47.7	1 15 24.59	Ex.	Ex.	31.00	5.4	36.40	H.C.
253	Capt. H. J. Pillbrow	France's Queen 2nd of Grognet	1052	Aug. 20, 1929	June 3 '137	11.8	11.2	11.5	34.5	14 $\frac{1}{2}$ 37.91	V. Good	Good	14.50	9.7	24.20	H.C.
254	Mrs. Jervoise ...	Herriard Sweet Girl	1004	April 24, 1929	Sept. 18 '30	14.1	15.0	12.7	41.8	2 0 $\frac{1}{2}$ 20.39	Ex.	Ex.	32.75	—	32.75	H.C.
255	H. E. Crawford	Eswelle Eleanor	872	Sept. 14, 1930	Aug. 22 '57	17.6	14.2	13.6	45.4	2 3 $\frac{1}{2}$ 20.45	Good	V. Good	35.50	1.7	37.20	Reserve
256	H. E. Crawford	Eswelle Hearts- ease 3rd	1008	Jan. 22, 1930	Aug. 26 '53	16.2	14.3	13.6	44.1	1 6 $\frac{1}{2}$ 31.50	Good	Good	22.25	1.3	23.55	
258	Mrs. J. S. Pynan	Norsebury May Belle	1198	Oct. 24, 1929	Aug. 12 '67	17.3	19.1	18.0	54.4	2 4 24.18	V. Good	Good	36.00	2.7	38.70	4th Prize
259	Highland Invest- ment Co., Ltd.	Calehill Primrose	904	Dec. 7, 1928	June 28 '112	12.3	11.4	12.7	30.4	1 2 $\frac{1}{2}$ 31.65	Fair	Good	18.50	7.2	25.70	H.C.
261	H. A. Y. Dyson	Lenore's Polly of Cote Grange	913	May 6, 1930	Sept. 20 '28	19.1	18.5	20.2	57.8	1 12 $\frac{1}{2}$ 32.11	Good	Good	28.75	—	28.75	H.C.
262	H. A. Y. Dyson	Princess May des Landes Farm	992	Oct. 14, 1929	Sept. 5 '43	18.1	16.5	16.7	51.3	1 10 31.47	Fair	Fair	26.00	0.3	26.30	H.C.
263	J. H. V. Collings	Lily of Pothill ...	959	June 5, 1929	Aug. 24 '55	9.1	14.9	10.7	34.7	1 2 $\frac{1}{2}$ 30.17	V. Good	Good	18.50	1.5	20.00	H.C.
265	Sir Louis Baron Bt.	Dene Starette 10th	832	June 16, 1931	Sept. 22 '26	8.9	9.0	9.3	27.2	1 6 $\frac{1}{2}$ 19.43	Good	V. Good	22.25	—	22.25	H.C.
266	Capt. H. J. Pillbrow	Charlotte of Souls les Hougues	813	Oct. 19, 1930	Jan. 12 '29	11.5	10.3	11.3	33.1	1 3 $\frac{1}{2}$ 27.36	Good	Good	19.25	12.0	31.25	H.C.

BUTTER TESTS—GUERNSEYS—Continued.

No. in Catalogue	Exhibitor	Name of Animal	Live Weight lbs.	Date of Birth	Date of last Calf 1933	No. of Days in Milk	Milk Yield				Ratio, viz., lbs. Milk to lbs. Butter	Colour and Quality of Butter		No. of Points for Butter	No. of Points for Lactation.	Total Number of Points	Awards.
							Morn. lbs.	Aft. lbs.	Even. lbs.	Total lbs.		Colour	Quality				
207	H. H. Scott	Hartwell Violet	804	June 20, 1931	Aug. 30	49	7.2	9.0	9.0	25.2	1	V. Good	V. Good	17.25	0.9	18.15	
209	Highland Investment Co., Ltd. J. H. V. Collings	Fernhill Victorine	950	June 1, 1931	June 11	129	8.1	8.0	8.1	24.2	1	V. Good	V. Good	16.25	8.9	25.15	H.C.
270		Middleton Cowslip	786	April 6, 1931	June 11	129	9.4	8.9	7.8	26.1	1	Ex.	V. Good	18.25	8.9	27.15	H.C.

BUTTER TESTS—GUERNSEYS—Continued.

No. in Catalogue.	Name of Animal.	CHURNING—TIME AND TEMPERATURE				
		Time		Dairy	Temperature °F.	
		Churning began	Churning finished		Cream and Churn	Buttermilk when churning finished
				Degrees	Degrees	Degrees
244	Rose of Vislet ...	3 0 p.m.	3 20 p.m.	66	52	54
245	Valence Lavender 2nd ...	3 40 "	4 12 "	66	52	56
246	Elswell Joyful ...	2 55 "	3 29 "	66	52	56
248	Treveneth Wallflower ...	3 49 "	4 30 "	66	52	56
249	Queen of North Valley ...	2 48 "	3 15 "	66	52	54
251	Princess 7th of the Belles ...	2 33 "	2 55 "	66	52	56
253	Princess Queen 2nd of Grolguet ...	2 30 "	3 2 "	66	52	60
254	Herriard Sweet Girl ...	2 45 "	3 0 "	66	52	55
255	Esvelle Eleanor ...	2 62 "	3 18 "	66	52	56
256	Norsebury Heartcase 3rd ...	2 50 "	3 23 "	66	52	50
258	Calchill Primrose ...	2 35 "	2 55 "	66	52	56
259	Lenore's Polly of Corte Grange ...	3 14 "	3 35 "	66	52	55
261	Princess May des Landes Farm ...	2 53 "	3 24 "	66	52	57
262	Jilly of Pothill ...	3 29 "	4 4 "	66	52	57
263	Dene Starette 10th ...	3 26 "	3 45 "	66	52	54
265	Charlotte of Sous les Hougues ...	3 27 "	3 36 "	66	52	57
267	Hartwell Violet 2nd ...	3 34 "	4 8 "	66	52	56
269	Esmond Vicarone 7th... ..	3 10 "	3 37 "	66	52	55
270	Middleton Cowslip ...	3 22 "	3 48 "	66	52	56

BUTTER TESTS—JERSEYS—Continued.

No. in Catalogue	Exhibitor	Name of Animal	Live Weight lbs.	Date of Birth	Date of last Calf	No. of Days in Milks	Milk Yield				Butter Yield lbs. ozs.	Ratio, viz., lbs. Milk to lbs. Butter	Colour and Quality of Butter.		No. of Points for Butter	No. of Points for Lactation	Total Number of Points	Awards
					1933		Morn. lbs.	Aft. lbs.	Even. lbs.	Total lbs.			Colour	Quality				
298	M. F. North ...	Wotton Bella Dona	902	June 25, 1930	July	3107	13.2	22.6	23.2	59.0	2	33 26.34	V. Good	V. Good	35.75	6.7	42.45	H.C.
300	H. H. Swann ...	Postgirl 3rd ...	848	April 14, 1930	Aug. 14	65	14.7	18.2	19.7	52.6	2	0 26.30	Pale	Good	32.00	2.5	34.50	H.C.
303	J. P. Morgan ...	Aldenham Rosy Chance	770	Sept. 20, 1931	Sept. 12	36	10.2	8.9	10.1	29.2	1	83 19.21	V. Pale	Good	24.25	—	24.25	H.C.
305	Sir John B. Lloyd	Foxbury Valentine 2nd	797	June 11, 1931	Sept. 17	31	18.4	16.5	14.7	49.6	2	103 18.51	Good	V. Good	42.75	—	42.75	H.C.
308	Mrs. R. M. Foot	White Hill Owlette's	608	Aug. 9, 1931	Sept. 10	38	10.2	10.4	10.3	30.9	1	103 18.73	Pale	Poor	26.50	—	26.50	H.C.
313	H. H. Swann ...	Soda Water Postgirl 4th ...	804	April 6, 1931	June 7	133	13.4	11.5	8.7	33.6	1	83 21.06	Good	Good	24.50	9.3	33.80	H.C.
314	H. H. Swann ...	Brown Sugar ...	798	Jan. 13, 1931	July 1	109	8.7	12.9	11.7	33.3	1	123 18.50	Good	Good	28.75	6.9	35.65	H.C.

BUTTER TESTS—JERSEYS—Continued.

No. in Catalogue.	Name of Animal.	CHURNING—TIME AND TEMPERATURE				
		Time		Dairy	Temperature °F.	
		Churning began	Churning finished		Cream and Churn	Buttermilk when churning finished
			Minutes	Degrees	Degrees	Degrees
272	Margawse	3 39 p.m.	4 0 p.m.	68	52	54
273	Wotton Psalmend	4 0 "	4 44 "	68	52	54
274	Wotton Early Mix	3 46 "	4 30 "	68	52	57
275	Sir Lawrence's Beauty Sleep	3 40 "	4 10 "	68	52	56
276	Caupela's Gift	3 55 "	4 35 "	68	52	55
277	Kentwin Cynthia	4 5 "	4 20 "	68	52	55
278	Eastwood Chandelier	4 0 "	4 35 "	68	52	56
280	Lady Clara	4 0 "	4 18 "	68	52	56
283	Wotton Pride of the Air	3 42 "	4 8 "	68	52	56
284	Sir Lawrence's Inogen	4 14 "	4 40 "	68	52	54
288	Easter of la Place	4 12 "	4 42 "	68	52	54
289	Seymour Rose Blossom	5 15 "	5 48 "	68	52	56
290	Jester's Beauty	3 55 "	4 23 "	68	52	56
291	White Hill Boutilliere's Dairylike	4 3 "	4 25 "	68	52	56
294	Dalby Georgiana Wideawake	5 0 "	5 46 "	68	52	54
296	Bollhaves Dusty's Flapper	5 19 "	5 52 "	68	52	53
297	Angelina's Pride 4th	5 5 "	5 25 "	68	52	53
298	Wotton Bella Donna	5 18 "	5 50 "	68	52	56
300	Postgirl 3rd	5 25 "	5 56 "	68	52	56
303	Aldenham Rosy Chance	5 0 "	5 50 "	68	52	56
305	Foxbury Valentine 2nd	5 18 "	5 50 "	68	52	54
308	White Hill Owllette's Soda Water	5 21 "	5 58 "	68	52	54
313	Postgirl 4th	5 0 "	5 37 "	68	52	55
314	Brown Sugar	5 18 "	5 46 "	68	52	55

BUTTER TESTS—OTHER BREEDS.

No. in Catalogue	Exhibitor	Name of Animal	Live Weight lbs.	Date of Birth	Date of last Calf 1933	No. of Days in Milk	Milk Yield				Butter Yield lbs. ozs.	Ratio to lbs. Butter Milk to lbs. Butter	Colour and Quality of Butter		No. of Points for Butter	No. of Points for Lactation	Total Number of Points	Awards
							Morn. lbs.	Aft. lbs.	Even. lbs.	Total lbs.			Colour	Quality				
WELSH BLACKS.																		
211	N. Vosper	Llanychan Tetsi	1178	Aug. 31, 1928	Sept. 3	45	19.5	18.1	16.3	53.9	1 12 1/2	30.28	Pale	Ex.	28.50	0.5	29.00	Prize of £2
212	N. Vosper	Llanychan Triunmy	974	Oct. 10, 1928	Sept. 15	33	13.5	13.3	13.0	39.8	1 8 1/2	25.68	Pale	Ex.	24.75	—	24.75	
213	Hon. Lady Shelley-Rolls	Bodelwa Beauty 7th	1394	Aug. 6, 1926	Sept. 17	31	26.9	23.4	21.6	71.9	3 0	23.97	Pale	Good	48.00	—	48.00	Prize of £3
214	Hon. Lady Shelley-Rolls	Topsy 4th	1308	Nov. 6, 1922	Aug. 19	60	22.3	17.7	15.4	55.4	1 2	40.46	Pale	V. Good	18.00	2.0	20.00	
DEXTERS.																		
318	Mrs. H. P. May	Braxted Wendy	701	June 28, 1928	July 31	79	7.1	8.1	11.4	26.6	10 1/2	39.12	Fair	Fair	10.75	3.9	14.65	
319	Mrs. H. P. May	Copthorne Clove	686	Nov. 9, 1923	Aug. 31	48	12.6	8.7	8.5	29.8	1 11 1/2	27.59	Good	Good	17.25	0.8	18.05	
320	Mrs. E. Johnson	Starlight of Grinstead	846	July 21, 1924	Sept. 7	41	13.4	7.1	10.9	31.4	15 1/2	32.37	V. Good	Fair	15.50	0.1	15.60	
321	Mrs. T. H. Peyton	Gaynes Gay	726	Mar. 14, 1925	May 3	168	8.6	8.5	8.2	25.3	1 14 1/2	28.11	Pale	Good	14.25	12.0	26.25	
322	Lady Loder	Grinstead Hawk 5th	698	June 12, 1928	May 10	161	9.7	10.5	9.1	29.3	1 5 1/2	22.03	Pale	Fair	21.25	12.0	33.25	Prize of £3
323	Lady Loder	Grinstead Duchess 1st	690	April 20, 1928	June 16	124	16.0	12.8	10.2	39.0	1 0 1/2	27.27	Good	Good	22.75	8.4	31.15	Prize of £2
327	Mrs. E. Johnson	Astonhaves Glenade	470	June 17, 1931	May 28	143	7.4	6.4	6.2	20.0	12 1/2	32.50	V. Good	Good	12.75	10.3	23.05	H.C.

POULTRY SECTION—DAIRY SHOW, 1933

By W. J. GOLDING.

Following up the great improvement made in recent years, in keeping the Main Hall for the trade stands, and the Cattle being nicely arranged in the well-lighted Gilbey Hall, the atmosphere of the galleries was much improved; it is surprising what an agreeable difference this new arrangement makes. The weather throughout the Show was at its best and the light, especially on the opening day, was particularly good, which greatly assisted the task of the Judges. This year's event was equal in every respect to the high standard usually seen at this classic, in fact it is pleasing to record that the quality of the exhibits, taken collectively, was never better.

Greater space than ever before had to be allotted to the Poultry Appliances and there is no mistaking the attraction this Show has for the appliance makers; trade was very brisk, and, as a business proposition, there is no other event that can be compared with it; also the educational value of a show of this description cannot be measured in mere words. The attendance compared most favourably with that of previous years, and the galleries were uncomfortably crowded at times.

The Poultry entry was slightly down on the 1932 Show. The arrangements were ably carried out by the willing band of Stewards, with Mr. R. Kirk in command, and by 1 o'clock when the public were admitted, judging was finished and awards all posted up.

It was most unfortunate that Mr. S. Palgrave Page, after the opening day, was suddenly seized by illness, and his genial presence and kindly statesmanship in this section was missed for the remainder of the Show.

BEST IN THE SHOW.

The judging for the Championship was entrusted to Messrs. Tennyson Fawkes, Roger Hargreaves and Harry Inman, and was awarded to Mr. John A. Dewar's Light Sussex cockerel, a most pleasing selection; the Reserve being Mr. H. Woollatt's Bronze Turkey cockerel.

THE AUCTION SALE.

The sale of the exhibits in the poultry section took place on the Wednesday at 2 p.m. Trade opened slowly in spite of the big attendance. A few of the principal prices realised at the auction

were Mr. H. Woollatt's 1st and Cup Bronze Turkey (Reserve Champion), £30; Sir Herbert Sharp's 1st Utility Rhode Island Red, £10; Mr. John Taylor's winning Barred Rock cockerel £12 10s. Od.; Mrs. Moore's 1st and Special Rhode Island Red pullet, £13. A number of the Selling Class birds catalogued at £3 caused spirited bidding and made enhanced prices. This part of the Show is always a most interesting feature and is looked forward to by a big number of poultry breeders as an opportunity of purchasing their stock for the forthcoming breeding season.

DEAD POULTRY AND EGGS.

These, as usual, were well staged in a splendid light in the New Berners Hall; taken generally the quality was not so good as has been seen here at former shows, the finish of many of the exhibits left room for improvement. The Market Packs contained two extra well filled classes and the quality here was much better. The Judge very rightly placed quality before mere weight and I was glad to see he enforced the rule that the vents of the birds must not be tied or tampered with; the result was that a number of excellent pairs were left cardless. Exhibitors have only themselves to blame if they disregard the conditions laid down in the Schedule. The Gold Medal fell to a really good pair of Indian Game—Light Sussex cockerels, exhibited by the Goatacre Poultry Farm, whose successes were quite the feature of the section.

The classes for New Laid Eggs, displayed in plates of 1 dozen each, came up well as regards numbers; the eggs were excellent for size and uniformity, but the Judge states he was much disappointed with the quality. Every egg was tested by a powerful lamp and carefully weighed, which proved in many cases that they were not so fresh as they might have been; moreover this candling found "meat spots," "watery whites" and defective shell, evidence in the Judge's opinion of the over intensive system; also, in his opinion, the English egg is deteriorating and to-day an average test of the products from England, Denmark, Holland and Sweden would place the English at the bottom. This is a most serious statement and one that he, Mr. Cooke, hopes will be taken seriously to heart by the egg producers in this country.

The Duck Eggs, on the other hand, were exceptionally good.

In the Colonial Egg Class an exhibit had to be disqualified as the case bore the distributor's mark. Apart from this, the rest of the class was outstandingly good, very level in quality, and a difficult task to separate.

LIVE POULTRY.

Dorkings, as is customary, headed the Schedule in Live Poultry. Taken as a whole they were not up to the usual standard, several

birds not being yet at their best. The winning Dark Cockerel of Mr. A. J. Major's well merited the Silver Medal. It was disappointing to see the two any other colour classes cancelled.

Brahmas, similar to the Dorkings, in many cases were short of feather and not yet ready. Entries were about on a par with last year and the Bronze Medal went to the Dark pullet exhibited by Mr. R. M. Thomas.

Cochins were above the average in quality and made two good classes. It is pleasing to see this old time breed holding its own, and the Medal deservedly went to the winning Buff pullet belonging to Mr. Wm. Kean, an exhibit full of quality.

Wyandottes.—This breed contained but 116 entries, a big falling off to what we used to see at this Show. *Gold* or *Silver Laced* cockerels consisted mostly of the gold variety, and was headed by a good bird shown by Mr. Richardson. The *Gold Laced* pullets were better in quality than the cockerels. *Silver Laced* pullets were an extra strong class and hard to separate. *Whites* were not good numerically, but the quality was quite up to the average. Both red tickets went to exhibits the property of the well-known Homestall Stud. The *Black* classes were well filled, and the winning pullet exhibited by Mr. John Blackburn, secured the Silver Medal for the Best Wyandotte, a very typical bird, teeming with quality. *Columbians* were moderate classes both in quality and numbers. The Partridges comprised two well-filled classes for this variety and contained excellent quality throughout.

Sussex.—Again this breed shows a big drop in the entries, especially in the *Light* variety, which were down considerably on the previous year. Quality was good however, and the winning Light cockerel, exhibited by Mr. John A. Dewar, was hard to fault, and undoubtedly one of the best yet seen. He subsequently won the Supreme Championship, which should assist and be a great incentive to the variety. *Red* entries contained several new exhibitors, a pleasing feature for this variety. *Speckleds* contained the two strongest classes for numbers in the section, and quality was of the best. The cockerel exhibited by Sir Gomer Berry won the cup offered for the best Speckled, conspicuous for his length of back, and nicely broken, on sound ground colour; he well deserved the Special. *Browns* were a good entry if not quite the quality of former years. *Bufs* do not seem to make the headway it was anticipated they would, and for colour they have yet a long way to go, especially the males. The same can be said of the *Whites*, this variety, a most useful one, from a utility standpoint, does not seem to catch on.

Orpingtons.—I had the pleasure of judging the Black and Buff varieties and quite a pleasing task it made. Staged at a

convenient height, in a very good light, made my work comparatively easy. The *Black* variety might well emulate the progress made by the *Bufs* in type and feathering, there is still too much loose feather to be found in the former. The entry in these two colours was about the usual and quality well maintained. Special mention must be made of the winning *Black* pullet, exhibited by Mr. John Burdett, and although it was after a third judge had been called in to arbitrate between her and the *Blue* cockerel, shown by Mr. Harold Corrie, for the *Silver Medal*, the *Black* pullet eventually secured the award as best in her section; personally I never thought the award was in doubt. The *Challenge Cup* for the *Best Buff* went to the winning pullet exhibited by Mr. F. Watkin Warner. The *White* and *Blue* classes were judged by Mr. L. H. Bacchus. Mr. Fielden had his usual success in *Whites*, capturing all the six money prizes. This is never to the advantage of a breed. In *Blues*, Mr. Harold Corrie won the *Cup* for the best in the variety with his prize-winning cockerel.

Croad Langshans did not have the good entry we used to see in this variety. It is a pity fresh breeders are not tempted into this good utility breed. The *Medal* went to the winning cockerel, exhibited by Mr. H. Church.

Plymouth Rocks were collectively a very nice collection, the *Barred* classes being the stronger both in numbers and quality. *Bufs* were certainly not the quality of former years. *Partridges* on the other hand show a distinct improvement. The *Any other Colour* classes were small in numbers and won respectively by a good white cockerel and a *Columbian* pullet.

Faverolles had four classes allotted them, but the two *Any other Colour* were most disappointing in entries. The *Salmon* classes were quite good both regards quality and numbers.

Barnevelders.—The two double laced classes filled well, but the remaining three classes were sparsely filled and contained nothing outstanding in quality with exception of the winning *Black* pullet, exhibited by Mr. J. B. Huntington, which well deserved the *Medal*.

Anconas came up well in entries, just over forty in the two classes, and the quality too, was well up to standard. They are a good breed from an egg farmer's point of view, and it is pleasing to see them popular. The *Medal* was awarded the pullet exhibited by Mr. A. Rice.

Campines were not so good, poor in numbers, and quality somewhat mixed. The *Silver* pullet shown by Mr. J. C. Robertson secured the *Medal*.

Bresse likewise were moderate in quality although numbering twenty-one entries in the two classes.

*Silkie*s were an increased entry and very good in quality, especially the winning white hen exhibited by Mrs. Humphrey Watts.

Polish contained but a small entry and are in too few breeders' hands; the quality though was exceedingly good. *Frizzles*—the same remarks as the *Polish*, apply to these.

Minorcas were small classes to what we are accustomed to see and nothing outstanding in quality. The winning pullet, exhibited by Messrs. Goodman Bros., was, however, the exception and she easily secured the Bronze Medal.

Andalusians.—The two classes had but 11 entries, but quality was good, especially in the cockerels.

Leghorns were somewhat better in numbers than last year, although there were several absentees. On the whole, quality was well maintained. *Browns* were not so good as usual. *Whites*, especially the cockerels, were better than seen at the Dairy Show for some years. The outstanding colour for quality were the *Blacks*; both classes contained many excellent exhibits and it was the winning cockerel, shown by Mr. C. Holgate, that was awarded the Silver Medal for the best in the section; a most popular decision. *Exchequers* were about the average, the cockerels being somewhat the better in quality. *Any Other Colour*.—These two classes contained some extra good birds, very well shown, and caused a deal of attraction.

Norfolk Greys with only ten entries in the two classes must be considered disappointing.

British Jersey Giants were better filled, especially the pullet class.

Rhode Island Reds as usual were very well filled classes, although the aggregate does not compare so favourably as a few years back; however, taken collectively, the quality was good. Breeders would do well by maintaining size in this breed: this can be accomplished without losing type. The Association's Silver Medal went to the pullet exhibited by Mrs. Moore, a bird very rich and even in colour, grand type, and shown to the minute.

Indian Game were two grand classes, the cockerels especially were as good as seen at this Show for some years. The Medal was secured by the cockerel shown by Mr. F. Hocking, and well deserved the honour.

Old English Game.—The entries of this grand old breed shewed a most creditable average of over 20 per class. The quality, taken right through, was excellent, and were well handled by Dr. Perry

Walker. The Silver Medal was won by the dark grey cockerel, exhibited by Messrs. Greenhow & Hartley, and in the words of the Judge, "was very nearly ideal, and fit to fight for a kingdom."

Any Other Distinct Variety.—These two classes, as usual, contained birds of exceptional merit and the Medal was awarded to a modern Langshan Cockerel, the property of Mr. J. Pickerell.

THE BREEDING PENS.

Out of the three classes scheduled, one unfortunately was cancelled for lack of entries, but some well matched trios were on view in the remaining classes. Competition was very keen, quality being so level it was a difficult matter to separate the winners. The Silver Medal was awarded to a fine pen of Silver Grey Dorkings, exhibited by Mr. A. J. Major. They were beautifully matched and very fit in condition.

WATERFOWL, &c.

The Ducks were not so numerous as usual, but nevertheless the quality was all that could be desired; special mention should be made of the winning Rouen Drake, exhibited by Mr. R. Calderbank, and the winning Aylesbury Duck, the property of Mr. H. G. Weston. This latter bird secured the Medal for the best in the section.

Geese.—The three classes filled well and some really good specimens were penned; the winning Toulouse Gander, exhibited by Mr. H. Whitley, well deserved the Medal; he was a giant, rare shape, with a powerful head and gullet. The *A.O.V.* class contained some new and interesting varieties.

Turkeys were a grand entry, the best in numbers seen for many years, in fact I should say never been equalled at the Dairy before. The *Bronze* classes were exceptionally strong in quality and it was the winning Bronze Stag that secured the Silver Medal, and subsequently stood reserve for the Supreme Championship of the Show. This bird was an outstanding exhibit, the best seen for many a long day. Apart from his great size, he was a standard of perfection; proof of this was the ready way he was sold at his catalogue price, £30. *Blues* made quite a pleasing display and seem to be catching on. *The Any Other Colour Class* was won by a white Stag, exhibited by Messrs. Gaybird, Ltd. This variety like the *Bufs* have made strides, but care must be exercised in breeding for length of breast bone.

UTILITY POULTRY.

An average of over 30 entries in each of the thirteen classes provided made this section the strongest in the Show, and a wonderful collection they made, the quality throughout being of a

very high order. Birds that one was accustomed to see in this section—not being quite up to standard I mean—were conspicuous by their absence. After a very hard fight the 50-Guinea Trophy was awarded the White Wyandotte cockerel, exhibited by Mr. John A. Dewar, thus completing a classic double championship for this well-known exhibitor.

BANTAMS.

The Modern Game came up well considering the past very dry summer, a lot of the adult birds are not yet through moult, but the quality was of the usual high standard and the winning *Black Red* cockerel, exhibited by Mr. John Beesley, was one of the best seen of this colour for some years. He easily gained the Silver Medal.

Old English Game again made a most attractive display. Extra strong classes faced the Judge, and in his opinion the average quality of the exhibits was higher than at any Show since the war. The Medal went to Mr. H. Johnston for his Spangled Cockerel.

The Variety classes had a fair average entry and the usual keen competition ran throughout the section. Taken as a whole, the quality was quite up to the usual standard of previous Shows.

In conclusion, may I impress upon poultry exhibitors, who are already members of the B.D.F.A. to point out to those fanciers who do not yet belong to the Association, the many advantages to be gained thereby, and try to persuade them to become members. The Show has no equal and is looked upon by everyone as the most interesting, instructive and enjoyable event of the Show season; it is most certainly deserving of better support in membership from exhibitors. Application forms for membership can be obtained from Mr. Fred J. Bull, the Secretary, at 28, Russell Square, London, W.C. 1.

PIGEON SECTION—DAIRY SHOW, 1933

By W. S. BROCKLEHURST, J.P.

The Fifty-fifth Annual Show of the British Dairy Farmers' Association was held on October 17th, 18th, 19th and 20th, 1933, at the Agricultural Hall, Islington, London, in extraordinarily bright weather for the time of the year in London. The attendance was larger than last year and the gate well above last year's total, which is very encouraging when one hears that most of the Agricultural Shows, if not all, were down both in entries and gate during the summer months throughout the country. There is no doubt that the popularity of the Dairy Show is still growing with both the public and fanciers, though the Poultry entries were down again this year by 71, the Pigeon entries were up 218 on last year. The total poultry entries of 2,703 and pigeons of 2,611 entries made a very attractive display in the galleries for the public to see, and from the constant crowd to be seen in the Gallery and the interest taken in the birds on view, it is one of the great attractions of the ever-popular Dairy Show for Londoners.

In the Pigeon Section, which comes more under my personal care than the Poultry Section during the Show, I was pleased to see an increase of 218 entries over last year, the total being 2,611 as compared with 2,396 in 1932 and 2,616 in 1931. The quality was on the whole well maintained throughout each breed.

As I mentioned fully in last year's report of this section, my Committee's new order of penning the birds that were judged in the walking pens and those that were essentially hard to be judged in the pens, was much appreciated by the breeders of the different birds, who quite realised how important it was that the birds should first of all be judged under the best and most favourable conditions both to the exhibit and exhibitor, though perhaps in some cases not quite so nice as some of the exhibitors would like it when looking over the birds after judging, but when it is a case of a limited amount of space to stage the birds, it is much the fairest way all round; and on the whole everyone was satisfied from what I could gather from fanciers present at the Show.

The British Dairy Farmers' Association Trophies and Gold Medal winners were a grand lot of pigeons. The late Mr. F. Smalley very kindly acted as the Judge of the above Trophies though he was far from well at the time, and told me he had practically left his bed to come to the Dairy Show to carry out his promise to award these much coveted honours. It was with much sorrow that I heard of his

passing away so soon after his last act of kindness to me and the Dairy Show authorities. He was not only a great Poultry Breeder and Judge, but also a Pigeon Fancier and judge as well. He will be much missed in the fancy.

This year for the first time the new N.P.A. Challenge Certificates were offered for competition and 47 were allotted to the Dairy Show in proportion to the classification offered in each breed shown, and proved a great success; they were of much interest amongst exhibitors and no doubt will help to increase entries in future. It is the ambition of every exhibitor for his bird to win the three Certificates under their different judges, so that the bird may become a Full Champion—no easy job with the keen Competition in the different breeds now shown.

The winners were as follows :—

The Association's Gold Medal for best Pigeon in Show, bred in 1933, was awarded to Pen 51, Class 6, Dr. C. H. Tattersall's Blue Dragoon Hen, a beautiful pigeon of correct type and quality. Reserve was Mr. H. Whitley's young Blue Norwich Cropper, Pen 2415, Class 240, another wonderful young pigeon of merit all through.

The Jones Memorial Trophy for best Adult Pigeon in Show was awarded to Pen 2039, Class 194, Mr. J. W. Swan's Show Homer Hen, a pigeon of tremendous head properties. Reserve was Mr. H. Whitley's Blue Silesian Swallow, Pen 2560, Class 254.

The Esquilant Challenge Trophy. The competition this year was for best in Section 5, bred in the current year, and between the following varieties :—Archangels, Magpies, Nuns and Long Faced Tumblers. The winner was found in Class 115, Pen 1151, Mr. Stobo Taylor's young Red Self, Long Faced Tumbler Cock, Reserve being Miss G. B. Wells' Black Baldhead Cock, Pen 1259, Class 126.

The Fulton Challenge Trophy. For best young bird bred in the current year in Section 2, the varieties competing were Short-faced Tumblers, Barbs, English Owls, African Owls and Turbits. The winner was found in Class 92, Pen 910, Mr. M. C. J. Sparrow's grand young Turbit, Reserve being Mr. G. Sugden's young Barb Cock, Pen 1081, Class 110.

All the Trophy winners and reserves were pigeons of exceptional merit and wonderful specimens of their respective breeds. Following are details of the various breeds shown at the Dairy Show this year and any comments made on them by the various judges who had a hard morning's work placing the awards in the classes put before them.

Dragoons numbered 272 entries in 32 classes as compared with 286 in 30 classes at the previous Show which was a decrease of 14

entries with two more classes added, but this breed is still one of the strong features of the Show, and a wonderful lot of birds were penned of correct type and shown in good condition. Some of the classes were not well patronised and it is surprising that the Dragoon Club still put on Yearling Classes, as well as old classes and young classes. Mr. T. J. Ambrose judged the Adults and Yearlings and Mr. W. Collins the Young Bird classes, and both judges reported on the high standard of quality generally seen at the Dairy Show, which was well maintained.

The George Cotton Challenge Cup for best Cock bred in the current year was awarded to Pen 38, Class 5, Mr. T. Wilkinson's young Blue Cock, which also took the Association Silver Medal for best Cock bred in 1933.

The George Cotton Challenge Cup for best young Hen bred in the current year was awarded to Pen 51, Class 6, Dr. C. H. Tattersall's wonderful young blue Hen, which also was awarded the Association Silver Medal for best young Dragoon Hen, and the Gold Medal of the Association for best young pigeon in Show. The Hewitt Challenge Cup for best White Dragoon going to Mr. Cecil Cooper's grand young cock.

The seven N.P.A. Certificates allotted to this section were awarded as follows :—

		Class.	Pen.
Blues :	... Dr. C. H. Tattersall's adult cock	... 1	1
Blue Chequers :	Mr. A. H. Dillworth's adult cock	... 7	58
Grizzles :	Mr. W. Proctor Smith's young cock	... 15	128
Red or Yellows :	Mr. J. Moore's young cock	... 25	207
Silvers :	Dr. C. H. Tattersall's adult cock	... 19	162
Whites :	Mr. Cecil Cooper's young cock	... 29	240
A.O.C.	Mr. W. L. Wilkinson's adult cock	... 31	262

Modenas numbered 438 entries in 40 classes as compared with 371 entries in 40 classes last year, an increase of 67 entries and by far the biggest section in the Show, and made a grand display. Mr. E. W. Canham, of Spalding judged the 16 Gazzi Classes and 8 Argent Classes. Mr. J. Vort, of Altrincham took the remaining 16 Schietti classes. The Gazzi classes, though not averaging quite so well as the Schietti classes, brought together the best birds in the Modena Fancy and Mr. E. W. Canham says, that as far as his classes were concerned, they consisted of the very cream of the Modena world with an average of 11 per class, all through, and little to choose between any of them. Blues were well up in numbers, but a few might have been a better colour, too light for my liking. Blacks are certainly improving in colour and have improved both in quality and type. Bronze and Ties are still holding their own and some of the best types of birds are to be found in the Bronze. The Ties are still on the whole a bit too long, the Any other Colour classes covered

a lot, and according to the number of Silvers shown, it looks as if they could be separated from the others. The few young Red and Yellows shown have little chance against the Silvers at present.

In the Argent Classes there were several very nice laced birds to be seen and the type is improving in one or two lofts. Mr. J. Vort says that the loft of birds he had to judge were on the whole a very good lot of birds. The Blues he thought were a little short of carriage; the Blacks and Bronze Tricoloured have improved and the A. O. Colours were a good lot.

The Modena Club's Challenge Cup for the best Adult Schietti Modena Hen was awarded to Pen 524, Class 58, Mr. W. S. Brocklehurst's Blue Hen.

The Association's Silver Medal for the best Gazzi Modena bred in the current year was awarded to Mr. A. C. Tattersall's young Black cock, Pen 340, Class 39.

The Association Silver Medal for the best Schietti Modena bred in the current year was awarded to Mr. W. S. Brocklehurst's young Black Cock, Pen 584, Class 63.

The ten N.P.A. Certificates allotted to this section were awarded as follows :—

GAZZI :—			Class.	Pen.
Blues :	Mr. W. S. Brocklehurst's adult cock	... ..	33	280
Blacks :	Mr. W. S. Brocklehurst's adult cock	... ..	37	324
Bronzes :	Mr. W. S. Brocklehurst's adult cock	... ..	41	351
A.O.C. :	Dr. W. H. Tattersall's adult Sulphur Chequer cock		45	389

SCHIETTI :—				
Blues :	Mr. W. F. Holmes' Adult cock	... ..	57	518
Blacks :	Mr. S. W. Brocklehurst's young cock		63	584
Bronzes :	Mr. S. W. Brocklehurst's young Tie hen		68	645
A.O.C. :	Dr. W. H. Tattersall's young Silver cock		71	684
Argents Blue or Black :	Mr. W. R. McCreath's adult cock	... ..	49	433
Argents A.O.C. :	Mr. W. F. Holmes' young cock	... ..	55	505

Archangels numbered 28 entries in 4 classes as compared with 31 entries in the same number of classes last year, a decrease of three; this variety seems to be getting a little less in number each year. In 1931 there were 39 entries in 4 classes. Mr. H. W. Williams judged this section and he reports that the reduced entry may be owing to the fact that one of the leading lofts is not represented, as its owner is judging other sections at the Show this year. Several of the birds are backward in condition and not through in feather yet. Quality however is well maintained on the whole. There is no lack of lustre in the bulk of the exhibits and competition among the breeders, especially in the old cock class is very keen. Type, I am glad to say is being carefully preserved.

The Association's Bronze Medal for best young bird bred in the current year was awarded to Pen 728, Class 75, Mr. H. Leigh-Lye's young cock.

The N.P.A. Certificate for best Archangel was awarded to Miss Ida C. Gardiner's Adult Cock, Class 73, Pen 713.

Oriental Frills numbered 161 entries in 14 Classes, as compared with 133 entries in the same number of classes last year, an increase of 28 entries. Mr. J. F. King judged this section and reports that he found the quality of the birds to be excellent, and was pleased with the nice height at which the birds were staged which is very necessary in order to compare the delicate feather markings which are one of the main features of this breed.

The Oriental Turbits were a very level lot, nothing outstanding, but the winning adult stood out somewhat from the rest.

Turbiteans were a good lot and there were several birds of perfect markings. In the Blondinette Classes there were some outstanding exhibits of correct type and many good birds had to remain cardless. In the other varieties of Frills were many good birds of excellent type and were put down in good condition.

The Club's Challenge Trophy was awarded to Mr. H. Wheatley's Satinette which also was awarded the Association's Silver Medal for best young Oriental Frill bred in the current year, Class 86, Pen 848. The four N.P.A. Certificates were awarded as follows:—

			<i>Class.</i>	<i>Pen.</i>
Oriental Turbits :	Mr. M. M. Prince Smith	...	77	739
Blondinettes :	Capt. W. Tawton	...	81	778
Satinettes :	Mr. A. J. Blackmore	...	87	855
A.O.V. Oriental :	Mr. H. P. Scatliff	...	79	762

Turbits numbered 42 entries in 5 classes as compared with 24 in three classes last year, an increase of 18 entries with two more classes. Mr. H. R. Champness judged this section and reported that he considered the birds shown were superior to any lot seen at the Dairy Show in recent years, and it was in this section that the winner of the Fulton Challenge Trophy was found in Mr. M. C. J. Sparrow's young cock, which also took the Association Bronze Medal for best young Turbit and the N.P.A. Certificate for best Turbit. Pen 910, Class 92.

Nuns numbered 56 entries in 5 classes as compared with 52 entries in 6 classes last year, an increase of 4 with one class less, one being cancelled this year. The Blacks and Duns were well up to standard and the Reds and Yellows much improved in colour and type. The Blues are coming on but still short of the correct type required; on the whole a good lot. Mr. J. C. Aird was the judge and awarded the Association's Bronze Medal for best young bird to Pen 959, Class 98, Mr. T. E. Doxer's Black Cock.

The N.P.A. Certificate going to Miss M. Allison's Adult Dun Cock.

Short Faced Tumblers numbered 68 entries in 4 classes, which was splendid for this old breed. Last year the 6 classes were cancelled, with the result that the Short Faced Tumbler Club made special efforts to avoid it happening again. Mr. H. W. Webb judged this section and reports that he found the Almonds not so good in colour and marking as they used to be with the exception of just one or two in the young class. In the Any Other Colour Classes there were some really good birds with sound colour, type and head properties. The Association's Bronze Medal for best young bird went to Mr. T. Grindey's Almond cock, Class 105, Pen 1020. The N.P.A. Certificate for best Short Faced Tumbler going to Messrs. J. & G. Cousins' Adult Almond cock.

Barbs numbered 17 in two classes. Last year all the classes provided for this breed were cancelled. This fine old breed does not seem to increase much in number and has been falling off in the past few years. The late Mr. Fred Smalley judged this section and reported that the quality was good throughout, and the birds shown in good sound condition.

The N.P.A. Certificate going to Mr. G. Sugden's adult cock, Class 109, Pen 1069.

Long Faced Tumblers numbered 328 entries in 29 classes as compared with 316 entries in 30 classes last year, an increase of 12 entries, made up as follows: Selves 166 entries, Balds and Beards 108 entries, Rosewings and Whitesides 19 and Muffed Tumblers 35. The Blacks, Whites and Blue Barred Selves were judged by Mr. J. W. Dickinson. Reds, Yellows, Chequered or Grizzle and Any Other Colour Bars by Mr. W. G. Clarke. Balds and Beard by Mr. E. O. Jeffries, Mr. F. M. Bailey taking the Mottle or Rosewing and Whitesides and Muffed Tumblers. Mr. J. W. Dickinson reports that he found the standard well up to previous years and that one or two of the Blue Bar birds were the best he had ever seen in this colour. The quality has not improved in the birds generally and he had handled better birds at the Dairy Show in past years; this I put down to the dry season causing a very slow and backward moult, apart from this, the birds were generally in good condition except for the finish of feather referred to. Mr. W. G. Clarke claims that the quality and type was good and colour much improved in the Reds and Yellows, and the birds well shown in good condition. The Grizzles have much improved showing better beak setting as well as head points, colour good. Mr. E. O. Jeffries says as regards the Bald and Beard classes, "I formed the opinion that excepting a few isolated cases there was little advance on previous years; the

difficulty is, of course, to combine the modern head and type with markings. The majority appeared to be somewhat backward in moult."

Mr. F. A. Bailey found on the whole, that not much improvement was apparent amongst the birds he had in front of him on past years. They were well shown and in good condition considering the bad moulting season.

The Silver Medal of the Association for best Long Faced Tumbler bred in the current year was awarded to Mr. R. Stobo Taylor's Red Self Cock, Pen 1151, Class 118, also winning the Esquilant Trophy.

The silver Medal of the Association for the best any other Self Tumbler bred in the current year went to Miss E. B. Wells' Black Bald-head cock.

The Bronze Medal of the Association for the best young Muffed Tumbler went to Mr. Roland Miller's Pen 1409, Class 139.

The three N.P.A. Certificates were awarded as follows :—

	Class.	Pen.
Red or Yellow Self : Mr. R. Stobo Taylor's Red cock	... 115	1151
Black or White Self : Mr. W. R. Atherton's Black cock	... 111	1088
A.O.C. Self : Mr. A. W. Dodd's Blue Bar cock	... 121	1219
Balds or Beards : Miss E. B. Wells' Black Baldhead cock	126	1258
Muffed Tumblers : Mr. Roland Miller's cock	... 139	1409

Magpies numbered 72 entries in 7 classes and compared with 85 entries in the same number of classes last year, a decrease of 13. Mr. W. Machin judged this section and reports that the Magpie of to-day is much more refined than the type of birds shown a few years ago, and wry tails are almost negligible which is a great improvement and very pleasing.

The Association's Bronze Medal for the best young bird bred in the current year was awarded to Mr. E. H. Kistler's young Red Cock, Pen 1460, Class 144.

The N.P.A. Certificate was awarded to Mr. E. H. Kistler's Adult Yellow Hen, Pen 1446, Class 143.

Variety Pigeon Classes. Entries numbered 116 in 13 classes as compared with 97 entries in 11 classes last year, an increase of 18, the Monk class being cancelled this year, the other varieties coming up well. The total was made up of the following breeds : *Fairy Swallows*, 16 entries ; *Ice*, 11 entries ; *Frillbacks*, 12 entries ; *Polish Lynx*, 10 entries ; *Blazefaces*, 8 entries ; *Gimples*, 10 entries ; *Swifts*, 10 entries ; *Damascenes*, 12 entries ; *Priests*, 10 entries ; *Starlings or Suabians*, 6 entries ; and *Silesian Swallows*, 11 entries. Mr. Anthony Houghton judged these most interesting classes and found the quality of the birds in each class of a very

high excellency, and a great improvement in most breeds. The birds were shown in splendid condition, which is no easy task in these heavy foot feathered varieties.

The Bronze Medal of the Association for the best in Variety Pigeon Classes was awarded to Mr. J. E. Johns' Black Silesian Swallow, Pen 1597, Class 160. The N.P.A. Certificate going to Dr. J. S. Peebles' Fairy Swallow, Pen 1487, Class 147.

Racing Pigeons numbered 209 entries in 8 classes as compared with 218 last year in the same number of classes a slight decrease of 9 entries. Mr. J. S. Hartridge, of Leicester, judged four of these classes. The two 1933 classes and the two Any Age Trained or Not, and his report is as follows :—

“The four classes I judged were very well supported and the standard of the birds distinctly above the average. As expected the Show enthusiasts were much in evidence, their birds were in magnificent condition and nicely advanced in moult. In nearly every instance the tenth flight was about half way up, which was good in the circumstances of the time of year at which the Show is held. The general impression I gained was that exhibitors had selected their candidates to catch the eye of racing judges and had avoided showing the cumbersome type of pigeon, which I, in any case, would have passed over.”

Mr. E. Crosbie who judged the other four classes for birds that had flown 200 miles and 100 miles respectively, reports that he found a fair proportion of the birds he judged rather bigger than he liked, otherwise the quality was of a very high standard.

The Osman Memorial Challenge Cup was awarded to Mr. Henry Hyde's young hen that had flown at least 200 miles, Pen 1636, Class 162, and the Association's Bronze Medal was awarded to opposite sex to winner of the above Cup, and went to Mr. J. Walkie, of Stirling, Pen 1759, Class 167.

Flying Tipplers. This variety was again catered for this year, after being absent from the Schedule for some years, with the result that 31 entries turned up in 2 classes which was good, and we hope that the entries will keep up and so warrant the classes being kept on in the future.

Many of the birds were not completely moulted and condition not too good in the old bird class. The young birds were a better lot all through. Mr. J. Whiteley judged this section.

Antwerp Smerles numbered 66 entries in 6 classes as compared with 85 entries in 5 classes last year, a decrease of 19 entries and one class more this year, which was somewhat surprising as the new breed promised to go ahead well last year ; on the whole undoubted

progress has been made on all-round Smerles qualities. Perhaps the Yellows have improved the most in type, but all colours have still a long way to go to come up to the ideal put forward by the Club.

Mr. J. Durham judged these classes and awarded the Bronze Medal of the Association for the best bird bred in the current year to Mr. H. P. Scatliff's young cock, Pen 1886, Class 175, and the N.P.A. Certificate went to Miss D. J. Williams' adult cock, Pen 1857, Class 173.

Jacobins numbered only 29 entries in 4 classes as compared with 46 entries in 5 classes last year, a decrease of 19 entries. Although down in numbers they were a better lot and superior to those exhibited a few years ago, though many were far from ready. The Yellows seemed to have gone through a quicker moult than the other colours, but the Dairy Show is always considered much too early for Jacobins.

Mr. H. Smith judged this section and awarded the Bronze Medal of the Association for best Jacobin bred in current year to Mr. J. Reid's young cock, Pen 1918, Class 179, and the N.P.A. Certificate went to Dr. J. L. Elliott's adult hen, Pen 1913, Class 178.

English Owls numbered 48 entries in 6 classes as against 53 entries in 7 classes last year, a decrease of 5 entries this year. Mr. J. Rose who judged this variety said the quality of the exhibits was of a very high standard and in several classes the exhibits were of such level quality that they were difficult to separate. The condition of all exhibits was very good considering the bad moulting season.

The Gatty Perpetual Challenge Cup was awarded to Mr. R. Arkwright's young cock, Pen 1975, Class 186, and the N.P.A. Certificate for best English Owl went to Mr. W. Prince Smith's Blue Adult Hen, Pen 1949, Class 182.

African Owls numbered 23 entries in 2 classes as compared with 28 in the same number of classes last year, again a decrease. Mr. H. R. Champness judged these classes and found the quality excellent and some of the young birds were of wonderful type, especially the winning young Black—one of the best specimens seen for a long time—which was awarded the Gatty Perpetual Challenge Cup for best young African Owl bred in the current year, belonging to Messrs. Lawrie & Hedley, Pen 1994, Class 188.

Antwerps numbered 22 entries in 4 classes, two short of last year's total in the same number of classes. Although numbers were disappointing, the condition and quality was excellent, and some Short Faced birds were of wonderful substance and correct type, and well shown. Mr. C. E. Rooke judged this section, and awarded the Bronze Medal of the Association for best young bird to

Mr. H. Driver's Long Face Red Chequer Hen, Pen 2021, Class 192, and the N.P.A. Certificate went to Mr. H. Driver's Short Face Red Cock, Pen 2006, Class 189.

Show Homers numbered 81 entries in 8 classes, a decrease of 8 entries in the same number of classes as last year. Mr. A. Pritchett judged this section and reported that he considered the Show Homers he had before him at the Dairy Show were of best quality and type—better than he had seen for some time and he hoped that breeders were getting back to the old standard of bird. The Reds had improved considerably and were a very good lot indeed.

The Silver Medal of the Association for the best young bird bred in the current year was awarded to Mr. R. Cocker's young cock, Pen 2088, Class 199, the same bird winning the Lovell Cup for best Show Homer of any age. The two N.P.A. Certificates were awarded to the following breeds: The one for Blues or Blacks going to Mr. J. W. Swan's Trophy Winning adult hen, Pen 2039, Class 194, the one for Any Other Colour being awarded to Mr. R. Cocker's young cock, Pen 2088, Class 199.

Exhibition Homers numbered 70 entries in 6 classes, an increase of 16 entries with one class more than last year. The quality of the birds shown was of a very high standard, and the condition excellent, and a more uniform type was seen than usual. Mr. W. Lillford judged this breed and awarded the Bronze Medal of the Association for the best Exhibition Homer bred in 1933 to Mr. W. H. Yorke's young cock, Pen 2112, Class 201.

Holle Croppers were up two entries on last year, there being 34 entries in 4 classes, as compared with 32 in the same number of classes the year before. Mr. G. Auckland judged this section and reported that the exhibits at this year's Dairy Show were a decided improvement on previous years, both in quality, condition and numbers, and thinks that the adding of a young bird class had done a lot of good to the fancy, which class contained many first class exhibits of the different colours, making it hard for the judge to sort out.

The Bronze Medal of the Association for best Holle Cropper went to Mr. A. W. Holloway, Pen 2209, Class 210. The N.P.A. Certificate was awarded to Mr. David Parvin's adult cock, Pen 2181, Class 207.

Runts numbered 17 entries in the two classes as compared with only 5 entries in one class last year, an increase of 12 entries this year. The exhibits were of a much better type and shown in better condition this year. Mr. H. W. Webb judged these two classes and awarded the N.P.A. Certificate to Mr. J. F. Robinson's adult cock, Pen 2219, Class 211.

Carriers numbered 37 entries in 6 classes and two classes being cancelled this year, as compared with 47 entries in 6 classes the year before, a drop again, which one regrets to note is happening each year now, and the quality on the whole of the birds shown to-day is far from what was before the judges at the Dairy Show a few years back. They lack substance and reach, with the exception of just a very few birds. The late Mr. F. Smalley judged this section and awarded the Carrier Club Challenge Cup to Mr. J. B. Cooper's adult cock, Pen 2231, Class 213. The same exhibit also winning the Association's Bronze Medal, and the N.P.A. Certificate for best Carrier—a really good pigeon.

Pouters numbered only 18 entries in 4 classes as against 15 entries in two classes last year, a very poor response and all the judge of this section, Mr. E. H. Lock, has to say is "Regret this variety does not show any improvement." The N.P.A. Certificate went to Mr. A. Veitch's young cock, Pen 2276, Class 223.

Pigmy Pouters came up well again, being only down three entries on last year's total, there being 110 entries in 13 classes this year as compared with 113 entries in the same number of classes last year. The quality and type were of the highest standard and a wonderful lot of birds were on exhibition; the type now shown is near the ideal aimed at by the very competent breeders of this variety. Mr. G. H. Lock also judged the adult birds in this section. Mr. F. Jupe taking the young birds and found a good lot of youngsters and most of them well through the moult and a great improvement all round. The Challenge Cup for the best young cock bred in the current year was awarded to Mr. F. W. Miller's young Blue cock, Pen 2323, Class 229. The Challenge Cup for the best young hen bred in the current year went to Mr. H. N. Leighton's young White hen, Pen 2371, Class 235. The Cup for the best Adult Pigmy Pouter going to Mr. H. N. Leighton's Adult Hen.

The Silver Medal of the Association for best young bird bred in current year was awarded to Mr. F. W. Miller's Cup-winning young Blue cock. The two N.P.A. Certificates, one for best Blues or Blacks, went to Mr. F. W. Miller's young Blue cock, Pen 2323, Class 229, and the one for best Any Other Colour to Mr. H. N. Leighton's young White Hen, Pen 2311, Class 228.

Norwich Croppers numbered 64 entries in 6 classes as compared with 52 entries in 4 classes last year. Mr. H. Bushell was the judge and reported that although the prolonged moulting season accounted for some of the exhibits not being quite through their moult and looking their best and no doubt helped to keep some some away from the show, the quality throughout was of a very high order, especially in the adult classes, which contained several birds of exceptional merit. The Bronze Medal of the Association for best young bird bred in 1933 was awarded to Mr. H. Whitley's young Blue cock,

Pen 2414, Class 240, and the N.P.A. Certificate went to the same bird.

Fantails were up 29 entries in 10 classes as compared with 71 entries in 8 classes last year, the total this year being 100 entries. We are pleased to see the improvement which is no doubt due to the Fantail Club's new management and better co-operation with the Dairy Show Committee. The exhibits were well shown and in wonderful condition and most of the highest type and style. Mr. W. Bardell judged this variety, and awarded the Challenge Cup for best Fantail in Show to Mr. F. H. Jarvis' young white hen, this same pigeon also getting the Associations' Silver Medal for best young bird bred in the current year, Pen 2503, Class 247.

The two N.P.A. Certificates, one for White and one for Any Other Colour, were awarded as follows :—

		<i>Class.</i>	<i>Pen.</i>
Best White :	Mr. F. H. Jarvis' young Hen	247	2503
Best Any Other Colour :	Mr. J. Kerr's Black	251	2539

Any Other Variety not Classified only numbered 9 in the one class as compared with 17 entries in the same class last year. This used to be not only a very good class but a most interesting class, but has gone down considerably in late years, owing to the Variety Pigeon Classes, no doubt, and it is a question whether it is worth keeping on in future. The few that were shown were most interesting. The late Mr. F. Smalley judged this class and found the winner in Mr. H. Whitley's Blue Fairy Swallow which I should have thought should have been shown in the Fairy Swallow Class No. 147. This Pigeon was shown in faultless condition and was also reserve for the Jones Trophy.

In concluding this report of the Pigeon Section of the 1933 Dairy Show, I would like again to thank all my stewards for their loyal help, support and hard work, without which it would be impossible to get the work done in anything like time to admit the public into the galleries by 1 o'clock on the first day. All the penning and packing was done in a splendid manner and without any queries at the finish.

My sincere thanks are also due to Mr. F. J. Bull and his staff for all their able assistance and co-operation at all times during the Show ; to Mr. A. Wallace in the Pigeon Office, and to Mr. A. T. Jupe, who acted as my Assistant during the Show and relieved me of much work in the office, I am extremely grateful, and I am sure it is through the loyalty and hard work of all concerned in the Pigeon Section that it is again possible for me to say that this section was considered a great success and much appreciated by the public, and helped to contribute to another successful Dairy Show.

AWARD OF PRIZES, DAIRY SHOW, 1933

TROPHIES AND SPECIAL PRIZES FOR DAIRY COWS AND HEIFERS IN MILK.

Open to all Breeds.

- THE BRITISH DAIRY FARMERS' ASSOCIATION'S SUPREME INDIVIDUAL CHAMPIONSHIP CHALLENGE TROPHY, for the Cow gaining the greatest number of points on Inspection, in the Milking Trials (provided the quality of the milk analysed during the test does not fall below 3 per cent. fat, nor below 8.5 per cent. of non-fatty solids at any Milking), and in the Butter Test. Awarded to Strutt and Parker (Farms) Ltd., for British Friesian cow "Lavenham Wallen 18th."
- THE "BLEDISLOE" CHALLENGE TROPHY (presented by LORD BLEDISLOE, P.C., G.C.M.G., K.B.E.), for the best exhibit of good all-round Dairy Cows. Awarded to the British Friesian Cattle Society.
- THE "MORRISON" CHALLENGE TROPHY (presented by MAJOR J. A. MORRISON, D.S.O.), for the Cow exhibited at three consecutive London Dairy Shows at which Cattle was exhibited, gaining the greatest total number of points (at the three Shows) on Inspection, in the Milking Trials and Butter Tests. Awarded to H. H. Scott for Guernsey Cow "Queen of North Valley."
- THE "BARHAM" CHALLENGE CUP (presented by Mr. G. TITUS BARHAM), for the Cow gaining the greatest number of points in the Milking Trials. Awarded to Strutt and Parker (Farms), Ltd., for British Friesian Cow "Lavenham Wallen 18th"
- THE "SPENCER" CHALLENGE CUP (presented by Mr. J. F. SPENCER, Coronation Year, 1902), for the cow gaining the greatest number of points on Inspection, in Milking Trials and Butter Tests. Awarded to Strutt and Parker (Farms), Ltd., for British Friesian Cow "Lavenham Wallen 18th."
- THE "SHIRLEY" CHALLENGE CUP (presented by the late Mr. J. L. SHIRLEY), for the Cow giving the greatest average daily weight of milk in the Milking Trials, such milk to contain not less than 3 per cent fat and 8.5 per cent. of non-fatty solids. Awarded to Strutt and Parker (Farms), Ltd. for British Friesian Cow "Lavenham Wallen 18th."
- THE NATIONAL MILK CHALLENGE CUP, for the Cow or Heifer of any breed, entered or eligible for the Herd Book of its breed, obtaining in the Milking Trials the greatest number of points per 1,000 lbs. live weight for Milk with lactation points added. Awarded to Mrs. R. M. Foot for Jersey Cow "White Hill Boutilliere's Dairylike."
- THE NATIONAL BUTTER CHALLENGE CUP, for the Cow or Heifer of any breed, entered or eligible for the Herd Book of its breed, obtaining in the Butter Tests the greatest number of points per 1,000 lbs. live weight for Butter with lactation points added. Awarded to H. S. Mountain for Jersey Cow "Sir Laurence's Imogen."
- SPECIAL PRIZE OF £10 (offered by Mr. ROBERT L. MOND, J.P.), for Two Animals, the Progeny of any particular Bull, awarded to Strutt and Parker (Farms), Ltd. for "Lavenham Present 8th" and "Lavenham Wallen 18th (British Friesians).

Open only to Shorthorns.

THE "DESBOROUGH" CUP (presented by LORD DESBOROUGH, K.G., G.C.V.O.), for the Cow, exhibited in Classes 1 or 2, gaining the highest points in the Milking Trials. Awarded to C. A. Chillingworth for "Siddingworth Grace 2nd."

THE "CALVERT" CHALLENGE CUP (presented by Mr. HORATIO CALVERT), for the best Pedigree Dairy Shorthorn Cow or Heifer upon Inspection only. Awarded to J. Timberlake for "Hastoe Beauty 7th."

THE "SHORTHORN" BUTTER CHALLENGE CUP (presented by MAJOR S. P. YATES), for the Shorthorn Cow or Heifer entered in Classes 1 to 5 complying with all the conditions of the Butter Tests, also gaining the greatest number of points under the qualified headings. Awarded to T. B. Bucknell for "Snowball."

THE "THORNTON" CHALLENGE CUP (presented by MESSRS. JOHN THORNTON & CO.), for the best Group of three Pedigree Dairy Shorthorn Cows and/or Heifers upon Inspection only. Awarded to Major G. Miller Mundy for "Redrice Darling 2nd," "Ticken Craggs 6th" and "Redrice Lady Winsonia."

SHORTHORN CHAMPIONSHIP PRIZE of £50 offered by the Shorthorn Society of the United Kingdom of Great Britain and Ireland for the Shorthorn Cow or Heifer, pedigree or non-pedigree, gaining most points on Inspection, in the Milking Trials and Butter Tests. Awarded to J. W. Smith & Son for "Kentish Honey Jean."

TWO EXTRA PRIZES of £5 offered by the Shorthorn Society for the two Cows exhibited in Class 2 gaining most points on Inspection and in Milking Trials. Awarded to M. Perkins for "Holmelacy Lily 5th" and to J. Timberlake for "Hastoe Beauty 7th."

TWO EXTRA PRIZES of £5 each offered by the Shorthorn Society for the two Heifers exhibited in Class 3 gaining most points on Inspection and in Milking Trials. Awarded to F. Chapman for "Chevet Clover" and to Sir Mark Collet, Bart., for "St. Clere Lady Wellesley."

EXTRA PRIZE of £10 offered by the Dairy Shorthorn Association for the Cow exhibited in Class 4 and entered, or accepted for entry, in the Register of the Dairy Shorthorn Association, gaining most points on Inspection and in Milking Trials. Awarded to T. B. Bucknell for "Snowball."

Open only to British Friesians.

THE "THORNTON" CHALLENGE CUP (presented by MESSRS. JOHN THORNTON & CO.), for the best group of three Pedigree British Friesian Cows and/or Heifers upon Inspection only. Awarded to Piddington (Northants.) Estates, Ltd., for "Piddington Diana 2nd," "Piddington Festus Daisy" and "Piddington Lady Carrie."

Open to South Devons.

A SILVER CHALLENGE CUP (presented by the SOUTH DEVON HERD BOOK SOCIETY), for the Pedigree South Devon Cow gaining the greatest number of points on Inspection, in the Milking Trials and Butter Tests. Awarded to Dartington Hall, Ltd., for "Ferry Primula."

Open only to Devons.

THE "BUSK" PERPETUAL CHALLENGE CUP (presented by Friends of the late WILLIAM GOULD BUSK of Wraxhall, Dorset), for the Devon Cow or Heifer gaining the greatest number of points on Inspection, in the Milking Trials, Butter Tests, and for the Milk Record for the 12 months ended 1st October, 1933. Not awarded.

Open only to Red Polls.

THE "THORNTON" CHALLENGE CUP (presented by MESSRS. JOHN THORNTON & CO.), for the Red Poll Cow or Heifer gaining the greatest number of points on Inspection, in the Milking Trials and Butter Tests. Awarded to C. H. Cearn for "Ashmoor Briony."

Open only to Ayrshires.

THE "ROWALLAN" CUP (presented by LORD ROWALLAN), for the Ayrshire Cow or Heifer registered or eligible for registration with a number in the Ayrshire Cattle Herd Book, gaining the greatest number of points on Inspection, in the Milking Trials and Butter Tests. Awarded to J. A. Brown for "Cormiston Towers Brownie."

Open only to Guernseys.

THE "STAGENHOE" CHALLENGE CUP (presented by MRS W. BAILEY-HAWKINS), for the Guernsey Cow or Heifer gaining the greatest number of points on Inspection, in the Milking Trials and Butter Tests. Awarded to Capt. H. J. Pilbrow for "Valence Lavender 2nd."

Open only to Jerseys.

THE "BLYTHWOOD" PERPETUAL CHALLENGE BOWL (presented by THE RT. HON. LORD BLYTH OF BLYTHWOOD), for the best Jersey Cow or Heifer bred in Great Britain or Ireland and entered or eligible for entry in the English Jersey Herd Book, on Inspection. Awarded to Mrs. Evelyn for "Wotton Pride of the Air."

GOLD, SILVER AND BRONZE MEDALS (presented by the ENGLISH JERSEY CATTLE SOCIETY) for the first three animals in the Butter Test, obtaining not less than 42 points. Awarded to Mrs. Evelyn for "Wotton Early Minx." H. S. Mountain for "Sir Laurence's Imogen" and Mrs. Evelyn for "Wotton Pride of the Air." respectively.

Open only to Keries.

A SILVER CHALLENGE CUP (presented by the BRITISH KERRY CATTLE SOCIETY), for the Kerry Cow gaining the greatest number of points in the Milking Trials. Not awarded.

Open only to Dexters.

THE "NUTT" CHALLENGE CUP (presented by MRS. H. J. NUTT), for the Dexter Cow or Heifer gaining the most points on Inspection, in the Milking Trials and Butter Tests. Awarded to Lady Loder for "Grinstead Duchess 1st."

Inspection and Milking Trial Prizes.

CLASS 1.—DAIRY SHORTHORN COW.—Entered in or accepted for Coates' Herd Book. Born on or previous to 1st August, 1928. Cows entered in this Class must have yielded a minimum of 8,000 lbs. at five years old or over, or 6,000 lbs. at under five years old during a lactation period of 45 weeks, recorded by a recognised Milk Recording Society. *First* Inspection Prize (£10) and *Third* Milking Trials Prize (£3 10s.) to J. Crowe for "Budbrooke Lass 2nd." *Second* Inspection Prize (£5), *Extra* Inspection Prize (£5) and *First* Milking Trials Prize (£12) to J. W. Smith & Son for "Kentish Honey Jean." *Third* Inspection Prize (£3) to F. Chapman for "Camerton Dairymaid 4th." *Second* Milking Trial Prize (£6) to A. T. Loyd for "Kelmecott Hester 23rd."

CLASS 2.—DAIRY SHORTHORN COW.—Entered in or accepted for Coates' Herd Book. Born after 1st August, 1928, and previous to 1st August, 1930. *First Inspection Prize* (£5) to J. Timberlake for "Hastoe Beauty 7th." *Second Inspection Prize* (£3) to C. J. Allday for "Fothering Lady Fogga-thorpe." *Third Inspection Prize* (£2) and *Third Milking Trial Prize* (£2 10s.) to M. Perkins for "Holmelacy Lily 5th." *First Milking Trial Prize* (£6) to C. A. Chillingworth for "Siddingworth Grace 2nd." *Second Milking Trial Prize* (£3 10s.) to Capt. A. S. Wills for "Thornby Barrington Duchess 3rd."

CLASS 3.—DAIRY SHORTHORN HEIFER.—Entered in or eligible for Coates' Herd Book. Born on or after 1st August, 1930, and having produced only one calf. *First Inspection Prize* (£5) to R. Silcock & Sons, Ltd. for "Fyde Wild Eyes 20th." *Second Inspection Prize* (£3) and *Fifth Milking Trial Prize* (15s.) to F. Chapman for "Chevet Clover." *Third Inspection Prize* (£2) and *Second Milking Trial Prize* (£3 10s.) to Sir Mark Collet, Bart., for "St. Clere Lady Wellesley." *Fourth Inspection Prize* (£1) to W. H. Vigus for "Revels Veronica." *Fifth Inspection Prize* (10s.) to Major G. Miller Mundy for "Redrice Lady Winsonia." *First Milking Trial Prize* (£6) to C. J. Allday for "Fothering Babette 2nd." *Third Milking Trial Prize* (£2 10s.) to A. T. Loyd for "Lockinge Tulip 14th." *Fourth Milking Trial Prize* (£1 5s.) to Major R. F. Fuller for "Chalfield Jilt 15th."

CLASS 4.—DAIRY SHORTHORN COW.—Not eligible for Classes 1 or 2. Cows entered in this Class must have yielded a minimum of 8,000 lbs. at five years old or over, or 6,000 lbs. at under five years old during a lactation period of 45 weeks, recorded by a recognised Milk Recording Society. *First Inspection Prize* (£10) and *Extra Inspection Prize* (£5) to Sir Mark Collet, Bart., for "Snowdrop 2nd." *Second Inspection Prize* (£5) and *Second Milking Trial Prize* (£6) to T. B. Bucknell for "Snowball." *Third Inspection Prize* (£3) and *First Milking Trial Prize* (£12) to Capt. N. Milne Harrop for "Gwersyllt Duchess 6th." *Third Milking Trial Prize* (£3 10s.) to J. Crowe for "Dairy Girl."

CLASS 5.—DAIRY SHORTHORN HEIFER.—Born on or after 1st August, 1930, and having produced only one calf. Not eligible for Class 3. *First Inspection Prize* (£5) and *First Milking Trial Prize* (£6) to H. Brazier for "Pretty Maid." *Second Inspection Prize* (£3) and *Third Milking Trial Prize* (£2 10s.) to J. H. Robinson for "Ascots Mary." *Third Inspection Prize* (£2) and *Second Milking Trial Prize* (£3 10s.) to H. Brazier for "Pretty Lass."

CLASS 6.—LINCOLNSHIRE RED SHORTHORN COW.—Entered in or accepted for the Herd Book. Cows entered in this Class must have yielded a minimum of 7,000 lbs. at five years old or over, or 5,250 lbs. at under five years old either during a lactation period of 45 weeks or for any one completed year of a recognised Milk Recording Society. *First Inspection Prize* (£10), *Extra Inspection Prize* (£5) and *First Milking Trial Prize* (£12) to F. Sainsbury for "Bendish Queen 4th." *Second Inspection Prize* (£5) to J. Evens & Son for "Bracebridge Coral 5th." *Third Inspection Prize* (£3) and *Second Milking Trial Prize* (£6) to J. Evens & Son for "Burton Beauty 12th."

CLASS 7.—LINCOLNSHIRE RED SHORTHORN HEIFER.—Entered in or eligible for the Herd Book. Born on or after 1st August, 1930, and having produced only one calf. *First Inspection Prize* (£5) and *First Milking Trial Prize* (£8 10s.) to J. Evens & Son for "Burton Venetia 2nd." *Second Inspection Prize* (£3) to J. Evens & Son for "Burton Melton 8th." *Third Inspection Prize* (£2) and *Second Milking Trial Prize* (£5) to F. Sainsbury for "Wratting Sunbeam." *Third Milking Trial Prize* (£2 10s.) to J. Evens & Son for "Burton Cherry 15th."

- CLASS 8.—BRITISH FRIESIAN COW.—Entered in or accepted for the Herd Book or the Supplementary Register. Born on or previous to 1st August, 1928. Cows entered in this Class must have yielded a minimum of 8,000 lbs. at five years old or over, or 6,000 lbs. at under five years old either during a lactation period of 45 weeks or for any one completed year of a recognised Milk Recording Society. *First Inspection Prize* (£10) and *Extra Inspection Prize* (£5) to Strutt and Parker (Farms), Ltd., for "Lavenham Present 8th." *Second Inspection Prize* (£5) and *First Milking Trial Prize* (£12) to Strutt and Parker Farms), Ltd., for "Lavenham Wallen 18th." *Third Inspection Prize* (£3) to W. Twentyman for "Winchester Audrey." *Second Milking Trial Prize* (£6) to Lord Rayleigh for "Terling Skylark 18th." *Third Milking Trial Prize* (£3 10s.) to J. Martin for "Netherhall Humbug."
- CLASS 9.—BRITISH FRIESIAN COW.—Entered in or accepted for the Herd Book or the Supplementary Register. Born after 1st August, 1928, and previous to 1st August, 1930. *First Inspection Prize* (£5) and *Second Milking Trial Prize* (£3 10s.) to Capt. J. Christie for "Glyndebourne Disley 2nd." *Second Inspection Prize* (£3) and *Third Milking Trial Prize* (£2 10s.) to Lord Rayleigh for "Harperadams Baby 3rd." *Third Inspection Prize* (£2) to T. Brown for "Haslington Kathleen." *First Milking Trial Prize* (£6) to Piddington (Northants.) Estates, Ltd., for "Piddington Diana 2nd."
- CLASS 10.—BRITISH FRIESIAN HEIFER.—Entered in or eligible for the Herd Book or the Supplementary Register. Born on or after 1st August, 1930, and having produced only one calf. *First Inspection Prize* (£5) to G. J. Caddey for "Egham Titania 4th." *Second Inspection Prize* (£3) and *First Milking Trial Prize* (£6) to W. Turner for "Hawthorn Nippy." *Third Inspection Prize* (£2) to Piddington (Northants.) Estates, Ltd., for "Eggington Rita." *Second Milking Trial Prize* (£3 10s.) to Piddington (Northants.) Estates, Ltd., for "Piddington Festus Daisy." *Third Milking Trial Prize* (£2 10s.) to F. J. Carter for "Chelmsford Pearl 6th."
- CLASS 11.—SOUTH DEVON COW.—Entered in or accepted for the Herd Book. Born on or previous to 1st August, 1928. Cows entered in this Class must have yielded a minimum of 7,500 lbs. at five years old or over, or 5,600 lbs. at under five years old either during a lactation period of 45 weeks, or for any one completed year of a recognised Milk Recording Society. *First Inspection Prize* (£7) and *Third Milking Trial Prize* (£2 10s.) to Dartington Hall, Ltd., for "Dartington Vera 10th." *Second Inspection Prize* (£4) to G. Wills for "Milkmaid 14th." *Third Inspection Prize* (£2) and *Second Milking Trial Prize* (£5) to T. Willing for "Countess." *First Milking Trial Prize* (£8 10s.) to Dartington Hall, Ltd., for "Dartington Hall Myrtle."
- CLASS 12.—SOUTH DEVON COW.—Entered in or accepted for the Herd Book. Born after 1st August, 1928, and previous to 1st August, 1930. *First Inspection Prize* (£7), *Extra Inspection Prize* (£5), and *Third Milking Trial Prize* (£2 10s.) to R. W. Chaffe for "Worswell Patience 3rd." *Second Inspection Prize* (£4) to Miss J. Smith for "Sandwell Geranium." *Third Inspection Prize* (£2) and *Second Milking Trial Prize* (£5) to Dartington Hall, Ltd., for "Ferry Primula." *First Milking Trial Prize* (£8 10s.) to G. Wills for "Milkmaid 3rd."
- CLASS 13.—SOUTH DEVON HEIFER.—Entered in or eligible for the Herd Book. Born on or after 1st August, 1930. *First Inspection Prize* (£5) to Dartington Hall, Ltd., for "Seale Jillie." *Second Inspection Prize* (£3) and *Second Milking Trial Prize* (£3 10s.) to J. Wakeham for "Rowden Wild White." *Third Inspection Prize* (£2) and *First Milking Trial Prize* (£6) to G. Wills for "Hawthorn 9th."

CLASS 14.—DEVON COW.—Entered in or accepted for the Herd Book or the Supplementary Register. Cows entered in this Class must have yielded a minimum of 6,500 lbs. at five years old or over, or 4,800 lbs. at under five years old either during a lactation period of 45 weeks, or for any one completed year of a recognised Milk Recording Society. Cancelled.

CLASS 15.—RED POLL COW.—Entered in or accepted for the Herd Book. Born on or previous to 1st August, 1928. Cows entered in this Class must have yielded a minimum of 8,000 lbs. at five years old or over, or 6,000 lbs. at under five years old either during a lactation period of 45 weeks or for any one completed year of a recognised Milk Recording Society. *First Inspection Prize* (£10), *Extra Inspection Prize* (£5) and *Second Milking Trial Prize* (£6) to C. H. Cearn for "Weston Peggy." *Second Inspection Prize* (£5) to Lt.-Col. Sir Merrik R. Burrell, Bart., for "Knepp Prudence 7th." *Third Inspection Prize* (£3) to Capt. A. Richardson for "Seven Springs Quintal." *First Milking Trial Prize* (£12) to S. Paul for "Holton Rainbow 6th." *Third Milking Trial Prize* (£3 10s.) to Major H. D. Roberts for "Capel Buttercup."

CLASS 16.—RED POLL COW.—Entered in or accepted for the Herd Book. Born after 1st August, 1928, and previous to 1st August, 1930. *First Inspection Prize* (£7) and *First Milking Trial Prize* (£8 10s.) to C. H. Cearn for "Ashmoor Briony." *Second Inspection Prize* (£4) and *Third Milking Trial Prize* (£2 10s.) to Mrs. R. M. Foot for "White Hill Red Briar." *Third Inspection Prize* (£2) to Lt.-Col. Sir Merrik R. Burrell, Bart., for "Knepp Prudence 11th." *Second Milking Trial Prize* (£5) to Mrs. R. M. Foot for "White Hill Charming Delight."

CLASS 17.—RED POLL HEIFER.—Entered in or eligible for the Herd Book. Born on or after 1st August, 1930, and having produced only one calf. *First Inspection Prize* (£5) to Hon. Clive Pearson for "Parham Rosie." *Second Inspection Prize* (£3) to Hon. Clive Pearson for "Parham Mollinette." *Third Inspection Prize* (£2) to Mrs. R. M. Foot for "White Hill Reckless." *First Milking Trial Prize* (£6) to S. Paul for "Kirtion Kathy." *Second Milking Trial Prize* (£3 10s.) to O. H. Smith for "Ranksborough Rosie." *Third Milking Trial Prize* (£2 10s.) to S. Paul for "Kirtion Quakeress."

CLASS 18.—BLUE ALBION COW.—Entered in or accepted for the Herd Book or the Supplemental Register. Cows entered in this Class must have yielded a minimum of 8,000 lbs. at five years old or over, or 6,000 lbs. at under five years old either during a lactation period of 45 weeks, or for any one completed year of a recognised Milk Recording Society. No entry.

CLASS 19.—BLUE ALBION HEIFER.—Entered in or eligible for the Herd Book or the Supplemental Register. Born on or after 1st August, 1930, and having produced only one calf. No entry.

CLASS 20.—WELSH BLACK COW.—Entered in or accepted for the Herd Book. Cows entered in this Class must have yielded a minimum of 7,000 lbs. at five years old or over, or 5,250 lbs. at under five years old either during a lactation period of 45 weeks, or for any one completed year of a recognised Milk Recording Society. *First Inspection Prize* (£7), *Extra Inspection Prize* (£5) and *Second Milking Trial Prize* (£5) to Hon. Lady Shelley-Rolls for "Topsy 4th." *Second Inspection Prize* (£4) and *First Milking Trial Prize* (£8 10s.) to Hon. Lady Shelley-Rolls for "Bodelwa Beauty 7th." *Third Inspection Prize* (£2) and *Third Milking Trial Prize* (£2 10s.) to N. Vosper for "Llanychan Tetsi."

CLASS 21.—AYRSHIRE COW.—Entered in the Herd Book or Appendices. Cows entered in this Class must have yielded a minimum of 8,000 lbs. at five years old or over, or 6,100 lbs. at under five years old either during a

lactation period of 45 weeks, or for any one completed year of a recognised Milk Recording Society. *First Inspection Prize* (£10) and *First Milking Trial Prize* (£12) to J. A. Brown for "Cormiston Towers Brownie." *Second Inspection Prize* (£5) to Viscount Astor for "Muncraig Soncie." *Third Inspection Prize* (£3) and *Second Milking Trial Prize* (£6) to Eshott Pedigree Stock Farms for "Newlands Sophie." *Extra Inspection Prize* (£5) to J. Turner for "Loaninghead May." *Third Milking Trial Prize* (£3 10s.) to A. W. Montgomerie for "Lessnessock Red Rose 6th."

CLASS 22.—**AYRSHIRE HEIFER**.—Registered or eligible for registration in the Herd Book or Appendices. Born on or after 1st August, 1930, and having produced only one calf. *First Inspection Prize* (£5) and *Second Milking Trial Prize* (£3 10s.) to J. N. Drummond for "Bargower Miss Donald 6th." *Second Inspection Prize* (£3) and *First Milking Trial Prize* (£6) to J. Wallace for "Low Ersock Mull 2nd." *Third Inspection Prize* (£2) and *Third Milking Trial Prize* (£2 10s.) to A. W. Montgomerie for "Lessnessock Snowball 11th."

CLASS 23.—**GUERNSEY COW**.—Entered in or accepted for the Herd Book. Born on or previous to 1st August, 1928. Cows entered in this Class must have yielded a minimum of 8,000 lbs. at five years old or over, or 6,000 lbs. at under five years old, either during a lactation period of 45 weeks or for any one completed year of a recognised Milk Recording Society. *First Inspection Prize* (£7) and *Extra Inspection Prize* (£5) to E. D. Fairweather for "Treveneth Wallflower." *Second Inspection Prize* (£4) and *Second Milking Trial Prize* (£5) to Capt. H. J. Pilbrow for "Valence Lavender 2nd." *Third Inspection Prize* (£2) to H. E. Crawford for "Eswelle Joyful." *First Milking Trial Prize* (£8 10s.) to Sir Louis Baron, Bart., for "Rose of L'Islet." *Third Milking Trial Prize* (£2 10s.) to H. H. Scott for "Queen of North Valley."

CLASS 24.—**GUERNSEY COW**.—Entered in or accepted for the Herd Book. Born after 1st August, 1928, and which has produced two or more calves. *First Inspection Prize* (£5) and *Third Milking Trial Prize* (£2 10s.) to H. A. Y. Dyson for "Princess May des Landes Farm." *Second Inspection Prize* (£3) and *Second Milking Trial Prize* (£3 10s.) to H. A. Y. Dyson for "Lenore's Polly of Cote Grange." *Third Inspection Prize* (£2) to H. E. Crawford for "Eswell Heartsease 3rd." *First Milking Trial Prize* (£6) to Mrs. J. S. Pyman for "Norsebury May Belle."

CLASS 25.—**GUERNSEY HEIFER**.—Entered in or eligible for the Herd Book, and which has produced her first and only calf at or under the age of two years and nine months. *First Inspection Prize* (£5) and *First Milking Trial Prize* (£6) to Capt. H. J. Pilbrow for "Charlotte of Sous Les Hougues." *Second Inspection Prize* (£3) and *Second Milking Trial Prize* (£3 10s.) to A. T. Loyd for "Lockinge Duchess 6th." *Third Inspection Prize* (£2) to Sir Louis Baron, Bart., for "Dene Starette 10th." *Third Milking Trial Prize* (£2 10s.) to Highland Investment Co., Ltd., for "Fernhill Victorine 7th."

CLASS 26.—**JERSEY COW**.—English or Island bred, entered in or accepted for the Herd Book. Born on or previous to 1st August, 1928. Cows entered in this Class must have yielded a minimum of 8,000 lbs. at five years old or over, or 6,000 lbs. at under five years old, either during a lactation period of 45 weeks, or for any one completed year of a recognised Milk Recording Society. *First Inspection Prize* (£7) and *First Milking Trial Prize* (£8 10s.) to Mrs. Evelyn for "Wotton Psamead." *Second Inspection Prize* (£4) to Mrs. G. J. Caddey for "Lady Clara." *Third Inspection Prize* (£2) to Mrs. G. J. Caddey for "Eastwood Chandelier." *Second Milking Trial Prize* (£5) to Mrs. Evelyn for "Wotton Early Minx." *Third Milking Trial Prize* (£2 10s.) to H. C. Pelly for "Kentwins Cynthia."

CLASS 27.—JERSEY COW.—English or Island bred, entered in or accepted for the Herd Book. Born after 1st August, 1928, and which has produced two or more calves. *First Inspection Prize* (£5), *Extra Inspection Prize* (£5), and *Second Milking Trial Prize* (£3 10s.) to Mrs. Evelyn for "Wotton Pride of the Air." *Second Inspection Prize* (£3) and *First Milking Trial Prize* (£6) to Mrs. R. M. Foot for "White Hill Boutilliere's Dairylike." *Third Inspection Prize* (£2) to Mrs. G. J. Caddey for "Jester's Beauty." *Fourth Inspection Prize* (£1) to Mrs. A. E. Phillips for "Dalby Regal Meg." *Third Milking Trial Prize* (£2 10s.) to G. McWilliam for "Bollhayes Dusty's Flapper." *Fourth Milking Trial Prize* (£1 5s.) to M. F. North for "Wotton Bella Donna."

CLASS 28.—JERSEY HEIFER.—English or Island bred, entered in or eligible for the Herd Book and which has produced her first and only calf at or under the age of 2½ years. *First Inspection Prize* (£5) and *Second Milking Trial Prize* (£3 10s.) to A. Wander, Ltd., for "Vert Champ Hamlet Beauty." *Second Inspection Prize* (£3) to Mrs. H. Hawkins for "Everdon Bowlina's Flora." *Third Inspection Prize* (£2) to Mrs. G. J. Caddey for "Mytilda's Belle 7th." *Fourth Inspection Prize* (£1) and *First Milking Trial Prize* (£6) to Sir John B. Lloyd for "Foxbury Valentine 2nd." *Third Milking Trial Prize* (£2 10s.) to W. E. A. Press for "Wolvers Bess." *Fourth Milking Trial Prize* (£1 5s.) to Mrs. H. Hawkins for "Orange Blossom."

CLASS 29.—KERRY COW.—Entered in or accepted for the Herd Book. Cows entered in this class must have yielded a minimum of 6,500 lbs. at five years old or over, or 4,800 lbs. at under five years old, either during a lactation period of 45 weeks or for any one completed year of a recognised Milk Recording Society. No entry.

CLASS 30.—KERRY HEIFER.—Entered in or eligible for the Herd Book. Born on or after 1st August, 1930, and having produced only one calf. Cancelled.

CLASS 31.—DEXTER COW.—Entered in or accepted for the Herd Book. Cows entered in this class must have yielded a minimum of 5,000 lbs. at five years old or over, or 3,750 lbs. at under five years old, either during a lactation period of 45 weeks or for any one completed year of a recognised Milk Recording Society. *First Inspection Prize* (£5) and *Second Milking Trial Prize* (£3 10s.) to Lady Loder for "Grinstead Duchess 1st." *Second Inspection Prize* (£3) and *Extra Inspection Prize* (£5) to Mrs. E. Johnson for "Starlight of Grinstead." *Third Inspection Prize* (£2) to Mrs. H. P. May for "Braxted Wendy." *First Milking Trial Prize* (£6) to Lady Loder for "Grinstead Hawk 5th."

CLASS 32.—DEXTER HEIFER.—Entered in or eligible for the Herd Book. Born on or after 1st August, 1930, and having produced only one calf. *First Inspection Prize* (£5) and *Third Milking Trial Prize* (£2 10s.) to Lady Loder for "Grinstead Duchess 3rd." *Second Inspection Prize* (£3) and *Second Milking Trial Prize* (£3 10s.) to Lady Loder for "Princess 2nd of Grinstead." *Third Inspection Prize* (£2) to Mrs. E. Johnson for "Ashtonhayes Glenade." *First Milking Trial Prize* (£6) to Mrs. H. P. May for "Braxted Flag."

BUTTER TESTS.

SHORTHORNS, entered in Classes 1 to 7.—*First Prize* (£10 and Silver Medal) to T. B. Bucknell for "Snowball." *Second Prize* (£5 and Bronze Medal) to C. A. Chillingworth for "Siddingworth Grace 2nd." *Third Prize* (£3) to A. T. Loyd for "Kelmscott Hester 23rd." *Fourth Prize* (£2) to F. Sainsbury for "Bendish Queen 4th."

BRITISH FRIESIANS, entered in Classes 8 to 10.—*First Prize* (£10 and Silver Medal) to Miss E. M. Smith for "Terling Torch 37th." *Second Prize*

(£5 and Bronze Medal) to Strutt and Parker (Farms), Ltd., for "Lavenham Wallen 18th." *Third Prize* (£3) to W. Twentymman for "Winchester Audrey." *Fourth Prize* (£2) to J. Martin for "Netherhall Humbug."

SOUTH DEVONS, entered in Classes 11 to 13.—*First Prize* (£10 and Silver Medal) to Miss J. Smith for "Sandwell Hillary." *Second Prize* (£5 and Bronze Medal) to G. Wills for "Milkmaid 3rd." *Third Prize* (£3) to Dartington Hall, Ltd., for "Ferry Primula." *Fourth Prize* (£2) to Miss J. Smith for "Crocus."

RED POLLS, entered in Classes 15 to 17.—*First Prize* (£10 and Silver Medal) to S. Paul for "Holton Rainbow 6th." *Second Prize* (£5 and Bronze Medal) to S. Paul for "Samford Witchgirl." *Third Prize* (£3) to O. H. Smith for "Ranksborough Rosie." *Fourth Prize* (£2) to O. H. Smith for "Ranksborough Fly."

AYRSHIRES, entered in Classes 21 and 22.—*First Prize* (£10 and Silver Medal) to M. Sloan for "Hunterhouse Lena." *Second Prize* (£5 and Bronze Medal) to J. A. Brown for "Cormiston Towers Brownie." *Third Prize* (£3) to Eshott Pedigree Stock Farms for "Newlands Sophie." *Fourth Prize* (£2) to A. W. Montgomerie for "Lessnessock Red Rose 6th."

GUERNSEYS, entered in Classes 23 to 25.—*First Prize* (£10 and Silver Medal) to Capt. H. J. Pilbrow for "Valence Lavender 2nd." *Second Prize* (£5 and Bronze Medal) to H. H. Scott for "Queen of North Valley." *Third Prize* (£3) to H. E. Crawford for "Eswelle Joyful." *Fourth Prize* (£2) to Mrs. J. S. Pyman for "Norsebury May Belle."

JERSEYS, entered in Classes 26 to 28.—*First Prize* (£10 and Silver Medal) to Mrs. Evelyn for "Wotton Early Minx." *Second Prize* (£5 and Bronze Medal) to H. S. Mountain for "Sir Laurence's Imogen." *Third Prize* (£3) to Mrs. Evelyn for "Wotton Pride of the Air." *Fourth Prize* (£2) to Mrs. A. E. Phillips for "Dalby Georgiana Wideawake."

OTHER BREEDS, entered in Classes 14, 18 to 20, and 29 to 32.—Prizes of £3 each to Hon. Lady Shelley-Rolls for "Bodelwa Beauty 7th" (Welsh Black); Lady Loder for "Grinstead Hawk 5th" (Dexter). Prizes of £2 each to N. Vosper for "Llanychan Tetsi" (Welsh Black); Lady Loder for "Grinstead Duchess 1st" (Dexter).

BULLS (Progeny of).

CLASS 33.—DAIRY SHORTHORN BULL (Progeny of).—Entered in or eligible for Coates's Herd Book. *First Prize* (£5) to C. J. Allday for "Fothering Fairy Duchess 2nd" and "Fothering Babette 2nd," progeny of "Histon Foggathorpe Dairyman." *Second Prize* (£3) to J. Crowe for "Oxford Rosette" and "Bianca Belle," progeny of "Kirklevington King 3rd." *Third Prize* (£2) to W. H. Vigus for "Revels Royal Princess" and "Revels Veronica," progeny of "Longhills Lord Thorndale 4th."

CLASS 34.—LINCOLNSHIRE RED SHORTHORN BULL (Progeny of). Entered in or eligible for the Herd Book. No award.

CLASS 35.—BRITISH FRIESIAN BULL (Progeny of). Entered in or eligible for the Herd Book or the Supplementary Register. *First Prize* (£5) to Strutt and Parker (Farms), Ltd., for "Lavenham Present 8th" and "Lavenham Wallen 18th," progeny of "Lavenham Laddie." *Second Prize* (£3) to J. & B. M. Dale for "Felhampton Penelope" and "Felhampton Poppy," progeny of "Mapleton Fireaway."

CLASS 36.—RED POLL BULL (Progeny of). Entered in or eligible for the Herd Book. *First Prize* (£5) to O. H. Smith for "Ranksborough Fly" and "Ranksborough Rosie," progeny of "Meddler Herdsman." *Second Prize* (£3) to Hon. Clive Pearson for "Parham Rosie" and "Parham Mollinette," progeny of "Basildon Rodney."

- CLASS 37.—**AYRSHIRE BULL** (Progeny of). Entered in or eligible for the Herd Book or Appendices. No award.
- CLASS 38.—**GUERNSEY BULL** (Progeny of). Entered in or eligible for the Herd Book. *First Prize* (£5) to H. E. Crawford for "Eswelle Joyful" and "Eswelle Heartsease 3rd," progeny of "Calehill Ivor."
- CLASS 39.—**JERSEY BULL** (Progeny of). Entered in or eligible for the Herd Book. *First Prize* (£5) to Mrs. A. E. Phillips for "Dalby Regal Meg" and "Dalby Georgina Wideawake," progeny of "Gloxalia's Georgius Rex."
- CLASS 40.—**BULL OF ANY OTHER DAIRY BREED** (Progeny of). Entered in or eligible for the Herd Book. *First Prize* (£5) to G. Wills for "Milkmaid 3rd" and "Hawthorn 9th," progeny of "Wychbrook Champion" (South Devon).

SHE GOATS, GOATLINGS AND KIDS.

TROPHIES AND CUPS.

Open to all Breeds.

- THE "HOLMES PEGLER JUBILEE" PERPETUAL CHALLENGE TROPHY for the Goat gaining the highest number of points in the Milking Competition and by Inspection. Awarded to Miss M. Owen for "Mostyn Marigold" (British Saanen).
- THE BRITISH GOAT SOCIETY'S TEN-GUINEA PERPETUAL CHALLENGE CUP for the best Goat over two years that has borne a kid. Awarded to Mrs. A. Abbey for "Didgemere Delightful" (British Alpine).
- THE "BARONESS BURDETT-COUTTS" PERPETUAL CHALLENGE CUP for the Goat gaining the highest number of points in the Milking Competition and by Inspection. Awarded to Miss M. Owen for "Mostyn Marigold" (British Saanen).
- THE "TREMEDDA SELENE" PERPETUAL CHALLENGE CUP for the Goat gaining highest points in the Milking Competition, that has given 10 lbs. of milk in 24 hours at any Show under the B.G.S. Rules after January 1st, 1920, or has been shown to have produced at home 10 lbs. of milk on an average for ten days on an officially recognised record. Awarded to Miss M. Owen for "Mostyn Marigold" (British Saanen).
- THE "DEWAR" PERPETUAL CHALLENGE CUP for a Female Goat in Milk, and Goatling. Awarded to Miss M. Owen for "Mostyn Marigold" (British Saanen) and "Mostyn Matchless" (British Saanen).
- THE "RIDING" CHALLENGE CUP, offered by the BRITISH GOAT SOCIETY for the best group of three Goats exhibited by the same owner. Awarded to Mrs. A. Abbey for "Didgemere Delightful," "Didgemere Dreamy" and "Didgemere Darkaline" (British Alpines).
- THE "DEWAR" TWENTY-GUINEA PERPETUAL CHALLENGE TROPHY for the Goat over two years old, other than an Anglo-Nubian, entered in the British Goat Society's Herd Book, gaining the highest number of points in the Milking Competition. Awarded to Miss M. Owen for "Mostyn Marigold" (British Saanen).

Open only to Toggenburgs.

- THE "TOGGENBURG" PERPETUAL CHALLENGE CUP for the Pure Toggenburg Goat or Goatling entered in the Toggenburg Section of the British Goat Society's Herd Book, gaining the highest number of points on Inspection. Awarded to Miss M. W. Harrison for "Nesta of Weald."

THE "STRAKER" CHALLENGE CUP for the Toggenburg Goat over two years old, gaining the highest number of points in either of the Milking Competitions. Awarded to Miss M. W. Harrison for "Serinda of Weald."

Open only to British Alpines.

THE "ABBEY" PERPETUAL CHALLENGE CUP for the British Alpine Goat gaining the highest number of points on Inspection and Milking. A goat to compete must be bred by the exhibitor, entered in the British Alpine Section of the British Goat Society's Herd Book, and obtain an award in its Inspection Class. Awarded to Mrs. A. Abbey for "Didgemere Diriam."

Open only to Saanens and British Saanens.

THE "CHAMBERLAIN" PERPETUAL CHALLENGE TROPHY for the Saanen or British Saanen Goat gaining the highest number of points on Inspection and Milking. A goat to compete must be bred by the exhibitor, entered in the Saanen or British Saanen Section of the Herd Book, and obtain an award in its Inspection Class. Awarded to Miss E. Skidmore for "Heddon Shoe" (British Saanen).

Open only to Anglo-Nubians.

THE "POMEROY" PERPETUAL CHALLENGE CUP for the Anglo-Nubian Goat, entered in the Anglo-Nubian Section of the British Goat Society's Herd Book, gaining the highest number of points in the Milking Competition. Awarded to Miss K. Pelly for "Theydon Belle."

Open only to Goatlings.

A BRONZE MEDAL offered by the British Goat Society for the best Goatling in Classes 50 to 54. Awarded to Mrs. A. Abbey for "Didgemere Darkaline" (British Alpine).

Open only to Kids.

A BRONZE MEDAL offered by the British Goat Society for the best Female Kid in Classes 55 and 56. Awarded to Mrs. A. Abbey for "Didgemere Dreamy" (British Alpine).

MILKING TRIAL PRIZES.

CLASS 41.—SHE-GOAT, FIRST KIDDER.—*First Prize* (£6 and Silver Medal) to Mrs. A. Abbey for "Didgemere Diriam" (British Alpine). *Second Prize* (£3) to Mrs. G. McVay for "Bitterne Penelope" (British). *Third Prize* (£1 10s.) to Miss C. Booth for "Didgemere Salome" (Saanen). *Fourth Prize* (10s.) to Mrs. F. J. Morcom for "Cornish Saccharine" (British).

CLASS 42.—SHE-GOAT. Not eligible for Class 41.—*First Prize* (£6 and Silver Medal) to Miss M. Owen for "Mostyn Marigold" (British Saanen). *Second Prize* (£3) to Miss M. Owen for "Ryedale Daisy" (British Saanen). *Third Prize* (£1 10s.) to Miss E. Skidmore for "Heddon Shoe" (British Saanen). *Fourth Prize* (10s.) to Mrs. F. J. Morcom for "Cornish Jujube" (British Toggenburg).

INSPECTION PRIZES.

CLASS 43.—SHE-GOATS, TOGGENBURG, entered or eligible for entry in the Toggenburg Section of the Herd Book.—*First Prize* (£2 10s.) to Miss M. W. Harrison for "Nesta of Weald." *Second Prize* (£1 5s.) to Miss M. W. Harrison for "Nice of Weald." *Third Prize* (15s.) to Miss M. W. Harrison for "Sandhill Queen."

CLASS 44.—SHE-GOATS, BRITISH ALPINE.—*First Prize* (£2 10s.) to Mrs. A. Abbey for "Didgemere Delightful." *Second Prize* (£1 5s.) to Mrs. A. Abbey for "Didgemere Dixiette." *Third Prize* (15s.) to Mrs. W. A. Stirling for "Didgemere Didymons."

- CLASS 45.—SHE-GOATS, SAANEN, entered or eligible for entry in the Saanen Section of the Herd Book.—*First Prize* (£2 10s.) to Miss C. Booth for "Springfield Lizette." *Second Prize* (£1 5s.) to Mrs. R. W. Rotherford for "Didgemere Snowflake." *Third Prize* (15s.) to Miss C. Booth for "Didgemere Salome."
- CLASS 46.—SHE-GOATS, BRITISH SAANEN.—*First Prize* (£2 10s.) to Miss M. Owen for "Mostyn Marigold." *Second Prize* (£1 5s.) to Miss E. Skidmore for "Heddon Shoe." *Third Prize* (15s.) to Miss V. Walton for "Dissington Marcella." *Fourth Prize* (10s.) to Mrs. F. J. Morcom for "Cornish Renown."
- CLASS 47.—SHE-GOATS, ANGLO-NUBIAN, entered or eligible for entry in the Anglo-Nubian Section of the Herd Book.—*First Prize* (£2 10s.) to Miss K. Pelly for "Theydon Belle." *Second Prize* (£1 5s.) to Miss K. Pelly for "Hoveton Francoa." *Third Prize* (15s.) to Mrs. M. E. T. Howden for "Buttercup of Coltishall."
- CLASS 48.—SHE-GOATS, ANY OTHER VARIETY. Not eligible for previous Classes.—*First Prize* (£2 10s.) to Mrs. F. J. Morcom for "Cornish Jujube" (British Toggenburg). *Second Prize* (£1 5s.) to Mrs. G. McVay for "Ednam Judy" (British Toggenburg). *Third Prize* (15s.) to Mrs. F. J. Morcom for "Cornish Catch" (British Toggenburg).
- CLASS 49.—SHE-GOATS, that are recorded under a recognised Milk Recording Society.—*First Prize* (£2 10s.) to Miss M. Owen for "Mostyn Marigold" (British Saanen). *Second Prize* (£1 5s.) to Mrs. A. Abbey for "Didgemere Delightful" (British Alpine). *Third Prize* (15s.) to Miss C. Booth for "Didgemere Salome" (Saanen).
- CLASS 50.—GOATLINGS, BRITISH ALPINE, over 1 year but not exceeding 2 years old.—*First Prize* (£2 10s.) to J. R. Egerton for "Malpas Millicent." *Second Prize* (£1 5s.) to Mrs. W. A. Stirling for "Twinstead Twin." *Third Prize* (15s.) to Miss M. Henderson for "Riding Thistlefoam."
- CLASS 51.—GOATLINGS, SAANEN OR BRITISH SAANEN, over 1 year but not exceeding 2 years old.—*First Prize* (£2 10s.) to Miss E. Skidmore for "Heddon Sandal" (British Saanen). *Second Prize* (£1 5s.) to Miss C. Booth for "Springfield Colleen" (British Saanen). *Third Prize* (15s.) to Miss B. Farrer for "Hargrave Diadem" (British Saanen). *Fourth Prize* (10s.) to Miss E. Skidmore for "Heddon Buttercup" (Saanen).
- CLASS 52.—GOATLINGS, ANGLO-NUBIAN, entered in or eligible for entry in the Anglo-Nubian section of the Herd Book, over 1 year but not exceeding 2 years old.—*First Prize* (£2 10s.) to Mrs. Carswell for "Cestrian Almond." *Second Prize* (£1 5s.) to Miss Stoddart for "Tamar Amber." *Third Prize* (15s.) to Miss M. A. Coskery for "Ardoch Ashore." *Fourth Prize* (10s.) to Mrs. E. J. Reed-Smith for "Blackchick."
- CLASS 53.—GOATLINGS, TOGGENBURG OR BRITISH TOGGENBURG, over 1 year but not exceeding 2 years old.—*First Prize* (£2 10s.) to Miss C. Chamberlain for "Worthwhile of Westons" (British Toggenburg). *Second Prize* (£1 5s.) to Miss B. Farrer for "Hargrave Poperinghe" (British Toggenburg). *Third Prize* (15s.) to H. Nettleton for "Gawthorpe Serene" (British Toggenburg). *Fourth Prize* (10s.) to Miss M. W. Harrison for "Nettle of Weald" (Toggenburg).
- CLASS 54.—GOATLINGS, ANY OTHER VARIETY, not eligible for previous Classes, over 1 year but not exceeding 2 years old.—*First Prize* (£2 10s.) to Mrs. Estyn-Jones for "Mabbitshorn Madcap" (British). *Second Prize* (£1 5s.) to Miss B. Farrer for "Hargrave Tango" (British). *Third Prize* (15s.) to Miss Stoddart for "Stratvale Tulip" (British).

CLASS 55.—FEMALE KIDS, BRITISH ALPINE, TOGGENBURG, BRITISH TOGGENBURG, SAANEN OR BRITISH SAANEN, not exceeding 1 year.—*First Prize* (£2 10s.) to Mrs. A. Abbey for “Didgemere Dreamy” (British Alpine). *Second Prize* (£1 5s.) to Miss K. Barnaby for “Bitterne Fernella” (British Toggenburg). *Third Prize* (15s.) to Mrs. R. W. Rotherford for “Dissing-ton Snowball” (Saanen). *Fourth Prize* (10s.) to Mrs. F. J. Morcom for “Cornish Praline” (British Toggenburg).

CLASS 56.—FEMALE KIDS, ANY OTHER VARIETY, not eligible for Class 55, not exceeding 1 year.—*First Prize* (£2 10s.) to Miss K. Barnaby for “Twinstead Belinda” (British). *Second Prize* (£1 5s.) to J. R. Egerton for “Mostyn Merise” (British). *Third Prize* (15s.) to Mrs. A. Abbey for “Didgemere Delterrel” (British).

CHEESE.

TROPHIES AND CUPS.

Open only to Cheddar.

CHAMPION CUP, value £10 10s. (presented by the CORPORATION OF THE CITY OF LONDON) for the best exhibit of Cheddar Cheese. Awarded to Osborne Bros.

Open only to Colonial Cheddar.

THE “BLEDISLOE” PERPETUAL CHALLENGE TROPHY, value 50 Guineas (presented by LORD BLEDISLOE, P.C., G.C.M.G., K.B.E.), for the best exhibit of Cheddar Cheese produced in the British Empire (overseas) excluding Irish Free State. Awarded to Kelso Co-operative Dairy Co., New Zealand.

THE “BLEDISLOE” PERPETUAL CHALLENGE CUP, value 50 Guineas (presented by LORD BLEDISLOE, P.C., G.C.M.G., K.B.E.), for the Provincial Area of New Zealand exhibiting the best Cheese. Awarded to the Province of Otago.

THE “HANSEN” CHALLENGE TROPHY, value £25 (presented by MESSRS. CHR. HANSEN’S LABORATORY, LTD.), for the best exhibit of Cheddar Cheese produced in the British Empire (overseas) excluding Irish Free State. Awarded to Kelso Co-operative Dairy Co., New Zealand.

Open only to Cheshire.

THE “BLAND” CHALLENGE CUP (value 20 Guineas) and £5 in cash (presented by Mr. C. BLAND) for the best exhibit of Cheshire Cheese. Awarded to T. E. Beckett.

CHAMPION CUP, value £10 10s. (presented by the CORPORATION OF THE CITY OF LONDON) for the best exhibit of Cheshire Cheese. Awarded to T. E. Beckett.

Open only to Smallholder Pressed.

A SILVER FRUIT DISH (presented by Mrs. A. S. McWILLIAM, M.B.E.), for the best exhibit of Smallholder pressed, quick-ripening cheese. Awarded to J. Steward.

Open only to Inter-County Class.

THE “INTER-COUNTY” CHALLENGE SHIELD (presented by the late JOHN BENSON), for the winner of the Inter-County Cheese Competition. Awarded to Gloucestershire.

- CLASS 57.—STILTON (6 Cheeses). Open only to Dairy Farmers. (Factors or Factories not eligible to compete). Cancelled.
- CLASS 58.—STILTON (12 Cheeses).—*First Prize* (£10 and Silver Medal) to Emberlin & Co., Ltd., Wymeswold. *Second Prize* (£5) to Wilts. United Dairies, Ltd., Swepstone. *Third Prize* (£3) to Long Clawson Dairy, Ltd., Hose.
- CLASS 59.—CHEDDAR TRUCKLES (6 Cheeses).—*First Prize* (£4) to W. H. Collins. *Second Prize* (£3) to Mrs. S. A. Harris. *Third Prize* (£2) to E. J. Loder. *Fourth Prize* (£1) to A. H. Hunt.
- CLASS 60.—CHEDDAR (2 Cheeses not less than 40 lbs. each).—*First Prize* (£6) to G. & J. Love. *Second Prize* (£4) to W. K. Stevenson. *Third Prize* (£3) to W. B. White & Sons. *Fourth Prize* (£2) to B. H. J. W. White. *Fifth Prize* (£1) to E. G. White.
- CLASS 61.—CHEDDAR AND CHEDDAR TRUCKLES (4 long-keeping Cheeses, not less than 10 lbs. each. Made on or before 30th June, 1933).—*First Prize* (£7) to G. & J. Love. *Second Prize* (£5) to F. Portch. *Third Prize* (£4) to W. H. Collins. *Fourth Prize* (£3) to A. H. Hunt. *Fifth Prize* (£2) to T. Durden. *Sixth Prize* (£1) to Osborne Bros.
- CLASS 62.—CHEDDAR (8 Cheeses).—*First Prize* (£12 and Silver Medal) to Osborne Bros. *Second Prize* (£10) to W. Cole. *Third Prize* (£7) to J. B. Crawford. *Fourth Prize* (£5) to F. & M. White. *Fifth Prize* (£3) to T. Durden. *Sixth Prize* (£1 10s.) to J. P. Hunter. *Seventh Prize* (10s.) to J. Stevenson.
- CLASS 63.—SMALL CHEDDAR (4 Cheeses, made at home, from 8 lbs. to 10 lbs. each). Open to pupils who have attended County Travelling Cheese Schools during 1932 or 1933. *First Prize* (£3) to D. Barnwell. *Second Prize* (£2) to Miss J. Corson. *Third Prize* (£1) to Miss B. Longher. *Fourth Prize* (10s.) to Miss M. Haine.
- CLASS 64.—CHEDDAR, produced in the British Empire (Overseas), excluding Irish Free State. (2 coloured or uncoloured Cheeses not less than 60 lbs. each).—*First Prize* (Gold Medal) to Kelso Co-operative Dairy Co., New Zealand. *Second Prize* (Silver Medal) to Downs Co-operative Dairy Association, Lilyvale, Australia. *Third Prize* (Bronze Medal) to Awarua Co-operative Dairy Co., New Zealand.
- CLASS 65.—CHESHIRE (8 Cheeses).—*First Prize* (£12) to W. E. Moore. *Second Prize* (£8) to T. E. Beckett. *Third Prize* (£5) to P. H. Walley. *Fourth Prize* (£4) to A. E. Walley. *Fifth Prize* (£3) to T. W. Young. *Sixth Prize* (£2) to J. J. Burston. *Seventh Prize* (£1) to W. H. Hobson.
- CLASS 66.—CHESHIRE (4 Coloured Cheeses, not less than 40 lbs. each).—*First Prize* (£7) to P. H. Walley. *Second Prize* (£4) to R. Walker. *Third Prize* (£3) to A. Barnett. *Fourth Prize* (£2) to W. H. Hobson. *Fifth Prize* (£1) to T. W. Young.
- CLASS 67.—CHESHIRE (4 Uncoloured Cheeses, not less than 40 lbs. each).—*First Prize* (£6) to T. E. Beckett. *Second Prize* (£4) to P. H. Walley. *Third Prize* (£2) to W. E. Moore. *Fourth Prize* (£1) to W. H. Hobson.
- CLASS 68.—CHESHIRE (4 Long-keeping Cheeses, Coloured or Uncoloured, not less than 40 lbs. each. Made on or before 30th June, 1933).—*First Prize* (£7) to T. E. Beckett. *Second Prize* (£5) to W. E. Moore. *Third Prize* (£4) to W. H. Hobson. *Fourth Prize* (£3) to R. Walker. *Fifth Prize* (£2) to A. Barnett. *Sixth Prize* (£1) to E. A. Cookson.
- CLASS 69.—CHESHIRE (4 Cheeses, not less than 40 lbs. each). Open only to those who have never won a prize for Cheshire Cheese at any Show of the British Dairy Farmers' Association.—*First Prize* (£5) to J. J. Burston. *Second Prize* (£3) to E. Kinsey. *Third Prize* (£2) to T. Hughes. *Fourth Prize* (£1) to W. E. Powell.

- CLASS 70.—CHESHIRE (4 Cheeses made at home, from 8 lbs. to 10 lbs. each). Open to pupils who have attended County Travelling Cheese Schools during 1932 or 1933.—*First Prize* (£3) to Miss G. Lorenzen. *Second Prize* (£2) to Mrs. Jackson. *Third Prize* (£1) to Mrs. E. Hesketh. *Fourth Prize* (10s.) to Miss B. Moore.
- CLASS 71.—AYRSHIRE DUNLOPS—4 Cheeses, from 40 lbs. to 60 lbs. each).—*First Prize* (£6) to J. and W. A. Galloway. *Second Prize* (£4) to D. Clark. *Third Prize* (£2) to John Sloan. *Fourth Prize* (£1) to James Sloan.
- CLASS 72.—FACTORY (10 Cheeses of any variety, not less than 28 lbs. each, manufactured at and exhibited by a recognised Cheese Factory dealing with a minimum of 500 gallons of milk daily in the United Kingdom).—*First Prize* (£7) to United Creameries, Ltd., Argyll. *Second Prize* (£4) to Ruyton Co-operative Dairies, Ltd. Whittington. *Third Prize* (£2) to Ruyton Co-operative Dairies, Ltd., Ruyton. *Fourth Prize* (£1) to Cheddar Valley Dairy Co., Ltd.
- CLASS 73.—LEICESTER (2 Cheeses). *First Prize* (£4) to F. W. Tomlinson. *Second Prize* (£3) to A. M. Dyke. *Third Prize* (£2) to P. J. Haynes.
- CLASS 74.—LANCASHIRE (2 Cheeses, not less than 30 lbs. each).—*First Prize* (£4) to J. Wahnsley. *Second Prize* (£3) to T. Whittingham. *Third Prize* (£2) to J. Cope.
- CLASS 75.—LANCASHIRE (Long Keeping) (2 Cheeses, not less than 30 lbs. each, made on or before 31st July, 1933).—*First Prize* (£5) to J. Lawrenson. *Second Prize* (£4) to H. Whittingham. *Third Prize* (£3) to G. Collinson. *Fourth Prize* (£2) to G. E. Hewitt.
- CLASS 76.—DERBY (4 Uncoloured Cheeses, not less than 25 lbs. each).—*First Prize* (£4) to J. M. Nuttall & Co., Ltd. *Second Prize* (£3) to G. Barnes. *Third Prize* (£2) to Cheddar Valley Dairy Co., Ltd.
- CLASS 77.—DOUBLE GLOSTER (4 Cheeses from 26 lbs. to 30 lbs. each).—*First Prize* (£4) to Osborne Bros. *Second Prize* (£3) to W. B. White & Sons. *Third Prize* (£2) to Mrs. W. Haine.
- CLASS 78.—SINGLE GLOSTER (4 Cheeses from 13 lbs. to 15 lbs. each).—*First Prize* (£4) to Osborne Bros. *Second Prize* (£3) to Gloucester Dairy Supply, Ltd. *Third Prize* (£2) to Mrs. W. Haine.
- CLASS 79.—CAERPHILLY (4 Cheeses, not exceeding 8 lbs. each).—*First Prize* (£4) to T. J. Collings. *Second Prize* (£3) to Miss N. Miller. *Third Prize* (£2) to Mrs. O. Hall.
- CLASS 80.—WENSLEYDALE (6 Blue-moulded Cheeses).—Cancelled.
- CLASS 81.—SMALLHOLDER PRESSED (4 Long-keeping Cheeses, not exceeding 8 lbs. each).—Cancelled.
- CLASS 82.—SMALLHOLDER PRESSED (4 Quick-ripening Cheeses, not exceeding 8 lbs. each).—*First Prize* (£5) to J. Steward. *Second Prize* (£3) to Mrs. W. O. A. Marsh. *Third Prize* (£2) to J. Fisher.
- CLASS 83.—INTER-COUNTY COMPETITION for the best collection of 8 Smallholder Cheeses not exceeding 8 lbs. each, made by four individual persons in their own dairies, and who have received instruction in Cheesemaking at a County Council Cheese School.—*First Prize* (£8 and Challenge Shield) to Gloucestershire. *Instructress*: Miss A. Colnett. *Competitors*: Miss Mary Haine, Miss Marie Hayne, Miss R. Webb and Miss J. Williams. *Second Prize* (£6) to Wiltshire. *Instructress*: Mrs. I. M. Bull. *Competitors*: Miss E. Anderson, Mrs. D. Bamwell, Miss J. Corson and Miss J. Cornish. *Third Prize* (£4) to Cornwall. *Instructress*: Miss A. J. W. Nicholas. *Competitors*: Mrs. Downing, Miss James, Miss Osborne and Miss Paull.

Fourth Prize (£3) to Monmouthshire. Instructress: Miss M. M. Trippe. Competitors: Miss D. Edwards, Mrs. S. Harris, Miss M. Morgan and Miss G. Williams.

CLASS 84.—SWEET CREAM CHEESE, made from pure cream only. No milk or curd to be added (6 cheeses of approximately 4 ozs. each).—*First Prize (£1) to J. H. Cash. Second Prize (15s.) to J. & T. Cash. Third Prize (10s.) to S. E. Butler.*

CLASS 85.—UNRIPENED SOFT CHEESE, other than Cream Cheese. Made direct from Milk (4 Cheeses of approximately 8 ozs. each). *First Prize (£1) to C. J. Allday. Second Prize (15s.) to Jersey Agricultural Products, Ltd. Third Prize (10s.) to Miss R. James.*

COLLECTION OF PRODUCE.

CLASS 86.—Open only to individual Women's Institutes. To consist of 1 lb. Fresh Butter; 1 Trussed Fowl; 8 ozs of Cream (raw or scalded); 8 ozs. Cream Cheese (either in two packets of 4 ozs. each, or one packet of 8 ozs.) and 1 doz. Eggs. The Collection to be packed in a box and sent to the Show by Parcel Post. Packages taken into consideration when making awards.—*First Prize (£5) to Slade Women's Institute. Second Prize (£3) to Truro Women's Institute. Third Prize (£2) to Wymondham Women's Institute.*

BACON.

Cups, Open only to Bacon-Pig Classes.

THE "C. & T. HARRIS (CALNE), LTD." PERPETUAL CHALLENGE CUP, presented by MESSRS. C. & T. HARRIS (CALNE), LTD., for the four best sides of Wiltshire Bacon in any one entry in Classes 92, 93, 94, or 95. Awarded to T. L. Ward.

THE "WHITLEY" CHALLENGE CUP, value 20 Guineas (presented by the late Mr. S. R. WHITLEY), for the first prize winner in Class 92. Awarded to H. R. Davidson.

THE "BEALE" CHALLENGE CUP, value 20 Guineas (presented by CAPT. B. P. BEALE, M.C.), for the first prize winner in Class 93. Awarded to J. P. Morgan.

THE "BLEDISLOE" BACON CHALLENGE CUP, value 20 Guineas (presented by LORD BLEDISLOE, P.C., G.C.M.G., K.B.E.), for the first prize winner in Class 94. Awarded to A. E. Law.

THE "PIG RECORDING" CHALLENGE CUP, value 20 Guineas (presented by MR. WILLIAM DAVIDSON), for the exhibit gaining the highest number of marks in Class 95, which reaches the standard of a First Class Award. Awarded to T. L. Ward.

CLASS 87.—ROLLED BACON WITH RIND ON. (Open only to Curers in Northern Ireland). Three Rolls to be exhibited, each weighing approximately from 32 lbs. to 35 lbs., 40 lbs. to 45 lbs., and 50 lbs. to 56 lbs. Rolls to be of the pale description and not smoked. Cancelled.

CLASS 88.—ROLLED BACON WITHOUT RIND (Ayrshire or Scottish). Two Rolls to be exhibited, each weighing approximately from 24 lbs. to 28 lbs., and 30 lbs. to 35 lbs. Rolls to be of the pale description and not smoked.—*First Prize (Silver Medal) and Second Prize (Bronze Medal) to D. McGrouther, Ltd.*

CLASS 89.—FOUR SMOKED SIDES, Mild Cured in Wiltshire Style, with Ham attached. Cancelled.

CLASS 90.—FOUR PALE DRIED SIDES, Mild Cured in Wiltshire Style, with Ham attached. No entry.

CLASS 91.—TWO SIDES OF BACON SMOKED, TWO SIDES OF BACON PALE DRIED, TWO HAMS SMOKED, AND TWO HAMS PALE DRIED (the weight of the sides not less than 56 lbs. and not more than 68 lbs. each. The Hams not less than 12 lbs. and not more than 20 lbs. each. No entry.

CLASS 92.—BACON PIGS. Three Hogs and three Gilt, farrowed on or after 1st March, 1933, by a Registered Sire and out of a Registered Dam of the same Breed, to be entered by the Breed Society or Breeder.—*First Prize* ("Whitley Cup" and £12) to H. R. Davidson (Large White). *Second Prize* (£6) to Dinam Estates, Co. (Welsh). *Third Prize* (£3) to Earl of Radnor (Large White).

CLASS 93.—BACON PIGS (PEDIGREE). (One Hog and one Gilt, farrowed on or after 1st March, 1933, by a Registered Sire and out of a Registered Dam of the same Breed. *First Prize* ("Beale" Cup and £5) to J. P. Morgan (Large White). *Second Prize* (£3) to H. Neaverson (Large White). *Third Prize* (£2) to Earl of Radnor (Large White).

CLASS 94.—BACON PIGS—FIRST CROSS (One Hog and one Gilt, farrowed on or after 1st March, 1933, by a Pure-bred Sire and out of a Pure-bred Dam, the evidence required being the eligibility to register. *First Prize* ("Bledisloe" Cup and £5) to A. E. Law (Large White and Middle White). *Second Prize* (£3) to Hertfordshire Institute of Agriculture (Large White and Essex). *Third Prize* (£2) to H. Neaverson (Large White and Wessex Saddleback).

CLASS 95.—BACON PIGS—RECORDED.—Two *First Class Awards* (£4 each) to T. L. Ward (Large White and Large Black). One *First Class Award* (£4) to Hertfordshire Institute of Agriculture (Large White and Wessex).

CLASS 96.—FOUR SIDES OF BACON, suitable for the London Market. Produced in the British Empire (Overseas), excluding Irish Free State. Open to Curers only.—*First Prize* (Silver Medal) to Farmers' Co-operative Bacon Factory, Ltd., South Africa. *Second Prize* (Bronze Medal) to Nels Rust Bacon Factory, South Africa.

HAMS.

CLASS 97.—FOUR PALE DRIED (long cut, of Winter or Spring cure, not over 14 lbs. weight.—*First Prize* (Silver Medal) to J. E. Downs & Sons. *Second Prize* (Bronze Medal) to John A. Hunter & Co. Ltd.

CLASS 98.—FOUR PALE DRIED (long cut, of Winter or Spring cure, over 14 lbs. weight).—*First Prize* (Silver Medal) to J. E. Downs & Sons. *Second Prize* (Bronze Medal) to John A. Hunter & Co., Ltd.

CLASS 99.—FOUR SMOKED (long cut, mild cured, not over 10 weeks cured, not over 15 lbs. weight).—*First Prize* (Silver Medal) and *Second Prize* (Bronze Medal) to John A. Hunter & Co., Ltd.

CLASS 100.—FOUR PALE DRIED (long cut, mild cured, not over 10 weeks cured, over 15 lbs. weight).—*First Prize* (Silver Medal) and *Second Prize* (Bronze Medal) to J. E. Downs & Sons.

CLASS 101.—SELLING CLASS FOR TWO HAMS, ANY VARIETY.—*First Prize* (£2) and *Second Prize* (£1) to J. E. Downs & Sons. *Third Prize* (10s.) to Harry Perry.

BUTTER.

(Open to Makers only residing in any part of Great Britain or Ireland).

Cup for 2 lb. Butter Classes.

CHAMPION CUP, value £10 10s. (presented by the CORPORATION OF THE CITY OF LONDON), for the best exhibit of Butter in Classes 102 to 109 inclusive. Awarded to Mrs. E. B. Beer.

- CLASS 102.—SLIGHTLY SALTED, open only to farmers, their wives, sons and daughters, occupying not exceeding 100 acres, and who have never won a Prize in the Butter Classes at any of the Association's Shows; 2 lbs. in 1 lb. lumps (brick shape).—*First Prize* (£3) to Miss M. L. Laverack. *Second Prize* (£2) to Miss F. Irving. *Third Prize* (£1) to Miss J. Gwennap.
- CLASS 103.—PERFECTLY FREE FROM SALT, the produce of Channel Islands Cattle and their Crosses; 2 lbs. in 1-lb. lumps (brick shape).—*First Prize* (£3) to Mrs. A. G. Dennis. *Second Prize* (£2) to Mrs E. B. Beer. *Third Prize* (£1) to J. Mogford. *Fourth Prize* (10s.) to Mrs. John Way.
- CLASS 104.—SLIGHTLY SALTED, the produce of Channel Islands Cattle and their Crosses; 2 lbs. in 1-lb. lumps (brick shape).—*First Prize* (£3) to J. Mogford. *Second Prize* (£2) to Miss M. M. Varker. *Third Prize* (£1) to Mrs. John Way. *Fourth Prize* (10s) to Mrs. H. B. Veale. *Fifth Prize* (5s.) to Mrs. P. Roach.
- CLASS 105.—PERFECTLY FREE FROM SALT, the produce of Shorthorn and other Cattle and their Crosses (except Channel Islands and their Crosses); 2 lbs. in 1-lb. lumps (brick shape).—*First Prize* (£3) to Mrs. A. G. Dennis. *Second Prize* (£2) to Mrs. G. Blackler. *Third Prize* (£1) to Miss P. L. Mudd.
- CLASS 106.—SLIGHTLY SALTED, the produce of Shorthorn and other Cattle and their Crosses (except Channel Islands and their Crosses); 2 lbs. in 1-lb. lumps (brick shape).—*First Prize* (£3) to Mrs. E. B. Beer. *Second Prize* (£2) to Miss A. M. Ward. *Third Prize* (£1) to Mrs. A. G. Dennis.
- CLASS 107.—SLIGHTLY SALTED, to be made from Scalded Cream only; 2 lbs. in 1-lb. lumps (brick shape).—*First Prize* (£3) to Mrs. E. B. Beer. *Second Prize* (£2) to J. Mogford. *Third Prize* (£1) to Miss A. M. Ward.
- CLASS 108.—PERFECTLY FREE FROM SALT, to be made from Scalded Cream only; 2 lbs. in 1-lb. lumps (brick shape).—*First Prize* (£3) to Mrs. E. B. Beer. *Second Prize* (£2) to J. Mogford. *Third Prize* (£1) to Miss A. M. Ward.
- CLASS 109.—ESPECIALLY FOR KEEPING, slightly salted; 2 lbs. in 1-lb. lumps (brick shape).—*First Prize* (£3) to J. Mogford. *Second Prize* (£2) to Mrs. John Way. *Third Prize* (£1) to Mrs. E. B. Beer. *Fourth Prize* (10s.) to Miss A. M. Ward.
- CLASS 110.—SLIGHTLY SALTED, made from Goats' Milk (butter colouring may be used), 1 lb. in $\frac{1}{2}$ -lb. lumps (brick shape). Cancelled.
- CLASS 111.—SLIGHTLY SALTED, in boxes of 12 bricks of 1 lb. each. Packages (non-returnable) taken into consideration. Wrapping allowed.—*First Prize* (£3) to Castlelyons Co-operative Creamery Co., Ltd. *Second Prize* (£2) to Ballinfull Co-operative Dairy Society. *Third Prize* (£1) to Boherlahan Co-operative Dairy Society, Ltd. *Fourth Prize* (10s.) to Shanagolden Co-operative Dairy Society, Ltd.
- CLASS 112.—FREE FROM SALT, in 24-lb. boxes of 12 rolls. Packages (non-returnable) taken into consideration. The rolls to be separately wrapped, in transparent greaseproof paper.—*First Prize* (£3) to Garryspillane Creamery. *Second Prize* (£2) to Shanagolden Co-operative Dairy Society, Ltd. *Third Prize* (£1) to Ballinfull Co-operative Dairy Society. *Fourth Prize* (10s.) to Herbertstown Co-operative Agricultural & Dairy Society, Ltd.
- CLASS 113.—MILD CURED, slightly Salted, in boxes of 24 rolls of 1 lb. each. Packages (non-returnable) taken into consideration. Wrapping allowed.—*First Prize* (£3) to Shanagolden Co-operative Dairy Society, Ltd. *Second Prize* (£2) to Ballinfull Co-operative Dairy Society. *Third Prize* (£1) to Garryspillane Creamery. *Fourth Prize* (10s.) to Herbertstown Co-operative Agricultural & Dairy Society, Ltd.

CLASS 114.—CURED, 28 lbs., slightly Salted. Packages (non-returnable) taken into consideration. *First Prize* (£3) to Kilross Co-operative Dairy Society, Ltd. *Second Prize* (£2) to Garryspillane Creamery. *Third Prize* (£1) to Ballinfull Co-operative Dairy Society, Ltd. *Fourth Prize* (10s.) to Shanagolden Co-operative Dairy Society, Ltd.

CLASS 115.—CURED, 56 lbs. Packages (non-returnable) taken into consideration.—*First Prize* (£3) to Glenwilliam Co-operative Dairy Society, Ltd. *Second Prize* (£2) to Shanagolden Co-operative Dairy Society, Ltd. *Third Prize* (£1) to Drumcliffe Co-operative Dairy Society, Ltd. *Fourth Prize* (10s.) to Boherlahan Co-operative Dairy Society.

CLASS 116.—TWO POUNDS, made up in the most attractive form for Table use. Scotch hands, moulds, &c., may be used for shaping the Butter (touching it directly by the human hand is prohibited). Exhibits, shown on a space 1 foot square, will be judged on quality as well as appearance.—*First Prize* (£4) to Miss H. M. Trenchard. *Second Prize* (£2) to Miss A. M. Ward. *Third Prize* (£1) to Mrs. A. G. Dennis.

CLASS 117.—FANCY OR ORNAMENTAL DESIGN, with foliage or other extraneous decoration.—*First Prize* (£4) to Miss H. M. Trenchard. *Second Prize* (£2) to Miss A. M. Ward. *Third Prize* (£1) to J. Icton.

(Produced in the British Empire (Overseas), excluding Irish Free State).

Open to Makers only.

CLASS 118.—SALTED, one cube box, containing not less than 56 lbs.—*First Prize* (Gold Medal) to Downs Co-operative Dairy Association, Ltd., Goom-bungee, Australia. *Second Prize* (Silver Medal) to Maryborough Co-operative Dairy Association, Ltd., Mundubbera, Australia. *Third Prize* (Bronze Medal) to Maryborough Co-operative Dairy Association, Ltd., Wondai, Australia.

CLASS 119.—UNSALTED, one cube box containing not less than 56 lbs.—*First Prize* (Gold Medal) to Adelaide Milk Supply Co-operative, Ltd., Adelaide, Australia. *Second Prize* (Silver Medal) to Maryborough Co-operative Dairy Association, Ltd., Kingaroy, Australia. *Third Prize* (Bronze Medal) to Maryborough Co-operative Dairy Association, Ltd., Wondai, Australia.

CREAM.

CLASS 120.—CLOTTED (open only to Wholesale Creameries and Factories).—*First Prize* (£2 and Silver Medal) to W. White & Sons. *Second Prize* (£1 and Bronze Medal) to West Cornwall Creameries, Ltd.

CLASS 121.—OTHER THAN CLOTTED (open only to Wholesale Creameries and Factories).—*First Prize* (£2 and Silver Medal) to W. White & Sons. *Second Prize* (£1 and Bronze Medal) to A. Stapleton & Sons, Ltd.

CLASS 122.—CLOTTED (not open to Wholesale Creameries and Factories).—*First Prize* (£2 and Silver Medal) to Mrs. E. White. *Second Prize* (£1 and Bronze Medal) to E. Lawrence.

CLASS 123.—OTHER THAN CLOTTED (not open to Wholesale Creameries and Factories).—*First Prize* (£2 and Silver Medal) to Miss K. F. M. Clatworthy. *Second Prize* (£1 and Bronze Medal) to J. M. Fraser.

BOTTLED FRUITS, VEGETABLES AND JAMS.

SILVER MEDAL of the British Dairy Farmers' Association for the best Exhibit in Classes 124 to 134 awarded to Frensham (Surrey) Women's Institute.

CLASS 124.—SIX BOTTLES OF SOFT FRUIT, of not less than 4 varieties.—*First Prize* (£2) to Mrs. P. E. Smith. *Second Prize* (£1) to Miss F. Hole. *Third Prize* (10s.) to Mrs. Notley.

- CLASS 125.—SIX BOTTLES OF STONE FRUIT, of not less than 4 varieties.—*First Prize* (£2) to Mrs. M. K. Oldham. *Second Prize* (£1) to A. Boyce. *Third Prize* (10s.) to Miss V. F. W. Harrison.
- CLASS 126.—THREE BOTTLES OF SOFT FRUIT (distinct).—*First Prize* (£1) to Mrs. P. E. Smith. *Second Prize* (10s.) to Miss V. F. W. Harrison. *Third Prize* (7s. 6d.) to Monmouthshire Agricultural Institution.
- CLASS 127.—THREE BOTTLES OF STONE FRUIT (distinct).—*First Prize* (£1) to Mrs. P. E. Smith. *Second Prize* (10s.) to Miss V. F. W. Harrison. *Third Prize* (7s. 6d.) to Mrs. A. L. Skeate.
- CLASS 128.—THREE BOTTLES OF STONE OR SOFT FRUIT (distinct).—Preserved in Syrup.—*First Prize* (£1) to Miss E. A. Smith. *Second Prize* (10s.) to Mrs. M. K. Oldham. *Third Prize* (7s. 6d.) to Mrs. L. Thornley.
- CLASS 129.—THREE CANS OF STONE OR SOFT FRUIT (distinct).—Preserved in Syrup.—*First Prize* (£1) to Mrs. M. H. Ingoldby. *Second Prize* (10s.) to Miss P. Millichip. *Third Prize* (7s. 6d.) to Miss M. M. Millichip.
- CLASS 130.—SIX BOTTLES OF VEGETABLES, of not less than 4 varieties (Tomatoes admitted).—*First Prize* (£2) to Mrs. P. E. Smith. *Second Prize* (£1) to Mrs. Notley. *Third Prize* (10s.) to Monmouthshire Agricultural Institution.
- CLASS 131.—THREE BOTTLES OF VEGETABLES (distinct).—*First Prize* (£1) to Mrs. E. F. Dike. *Second Prize* (10s.) to Mrs. I. Betteridge. *Third Prize* (7s. 6d.) to A. Boyce.
- CLASS 132.—THREE CANS OF VEGETABLES (distinct).—*First Prize* (£1) to Mrs. M. H. Ingoldby. *Second Prize* (10s.) to Mrs. A. F. Dalton.
- CLASS 133.—THREE JARS OF JAM (1 lb. each), dissimilar (any variety).—*First Prize* (£1) to Miss G. Watson. *Second Prize* (10s.) to Mrs. G. Haydon. *Third Prize* (7s. 6d.) to Mrs. C. M. Irvine.
- CLASS 134.—CO-OPERATIVE EXHIBIT OF BOTTLED FRUITS (Preserved in plain water or Syrup), VEGETABLES, JAMS, FRUIT, JELLIES, PICKLES AND CHUTNEYS. Open only to individual Women's Institutes. Each Exhibit to be the work of not less than four Members. To consist of 3 bottles of Soft Fruit, 3 bottles of Stone Fruit, 3 bottles of Vegetables, 3 1-lb. jars of Jam or Fruit Jelly, 3 jars of Pickles or Chutney. All exhibits to be shown in glass containers and to be of not less than two varieties.—*First Prize* (£5) to Frensham (Surrey) Women's Institute. *Second Prize* (£3) to Albourne Women's Institute. *Third Prize* (£2) to North Weald Women's Institute.

HONEY, WAX, &c.

Silver Medal of the British Beekeepers' Association awarded to H. S. Barter as the Exhibitor obtaining the highest number of points in Classes 135 to 147.

- CLASS 135.—SIX JARS OF LIGHT HONEY, three each of 1 lb. and $\frac{1}{2}$ -lb. (Ministry of Agriculture and Fisheries Registered Design 761017). National Mark Labels to be attached. *First Prize* (£2) to J. Salt. *Second Prize* (£1 10s.) to A. J. Bates. *Third Prize* (£1) to H. S. Barter. *Fourth Prize* (15s.) to J. Carver.
- CLASS 136.—SIX JARS OF MEDIUM OR DARK HONEY, three each of 1 lb. and $\frac{1}{2}$ lb. (Ministry of Agriculture and Fisheries Registered Design 761017). National Mark Labels to be attached. *First Prize* (£2) to W. J. Goodrich. *Second Prize* (£1 10s.) to J. Salt. *Third Prize* (£1) to R. Edmondson. *Fourth Prize* (15s.) to W. J. Goodrich.
- CLASS 137.—SIX JARS OF EXTRACTED LIGHT-COLOURED HONEY (1 lb. each, approximate weight).—*First Prize* (£1) to W. S. Bassett. *Second Prize* (15s.) to W. Gibbard. *Third Prize* (12s. 6d.) to A. J. Bates. *Fourth Prize* (10s.) to R. Edmondson.

- CLASS 138.—SIX JARS OF EXTRACTED MEDIUM-COLOURED HONEY (excluding Heather Honey, 1 lb. each approximate weight).—*First Prize* (£1) to H. S. Barter. *Second Prize* (15s.) to R. Edmondson. *Third Prize* (12s. 6d.) to W. E. Painter. *Fourth Prize* (10s.) to W. J. Goodrich.
- CLASS 139.—SIX JARS OF EXTRACTED DARK-COLOURED HONEY (excluding Heather Honey, 1 lb. each, approximate weight).—*First Prize* (£1) to R. Edmondson. *Second Prize* (15s.) to W. J. Goodrich. *Third Prize* (12s. 6d.) to J. Salt. *Fourth Prize* (10s.) to H. S. Barter.
- CLASS 140.—SIX JARS OF GRANULATED HONEY (excluding Heather Honey, 1 lb. each, approximate weight).—*First Prize* (£1) to W. J. Goodrich. *Second Prize* (15s.) to A. H. Bowen. *Third Prize* (12s. 6d.) to Capt. C. F. Dixon-Johnson. *Fourth Prize* (10s.) to H. S. Barter.
- CLASS 141.—SIX JARS OF EXTRACTED HEATHER HONEY (1 lb. each, approximate weight).—*First Prize* (£1) to H. S. Barter. *Second Prize* (15s.) to Capt. C. F. Dixon-Johnson. *Third Prize* (12s. 6d.) to S. H. Hunt. *Fourth Prize* (10s.) to J. Fisher.
- CLASS 142.—SIX SECTIONS OF COMB HONEY (excluding Heather Honey, size $4\frac{1}{2}$ by $4\frac{1}{2}$, approximate weight, 1 lb. each).—*First Prize* (£1) to H. S. Barter. *Second Prize* (15s.) to W. Salmon. *Third Prize* (10s.) to A. H. Bowen.
- CLASS 143.—SIX SECTIONS OF HEATHER HONEY (size $4\frac{1}{2}$ by $4\frac{1}{2}$, approximate weight 1 lb. each).—*First Prize* (£1) to H. S. Barter. *Second Prize* (15s.) to W. M. Robson. *Third Prize* (10s.) to Capt. C. F. Dixon-Johnson.
- CLASS 144.—DISPLAY OF HONEY AND HONEY PRODUCTS (of any year, staged in the most attractive form on a space 3 feet by 3 feet and height not to exceed 4 feet above the table.) The Products not including mirrors or sheet glass to be above 50 lbs. but not exceeding 100 lbs. in weight. No flowers allowed.—*First Prize* (£5) to H. S. Barter. *Second Prize* (£2) to A. J. Bates. *Third Prize* (£1) to A. Pearman.
- CLASS 145.—ONE SHALLOW-FRAME OF COMB HONEY (suitable for extracting). *First Prize* (15s.) to H. S. Barter. *Second Prize* (10s.) to J. Salt. *Third Prize* (7s. 6d.) to A. J. Bates.
- CLASS 146.—EXHIBIT OF NOT LESS THAN 2 LBS. OF BEES' WAX (in not more than two cakes, the produce of the Exhibitor's Apiary; extracted and cleaned by the Exhibitor or his assistants).—*First Prize* (15s.) to H. S. Barter. *Second Prize* (10s.) to Capt. C. F. Dixon-Johnson. *Third Prize* (7s. 6d.) to R. Edmondson.
- CLASS 147.—INTERESTING AND INSTRUCTIVE EXHIBIT OF A PRACTICAL OR SCIENTIFIC NATURE CONNECTED WITH BEE CULTURE (not mentioned in the foregoing classes).—*First Prize* (15s.) to H. S. Barter for Section of Bee Hives. *Second Prize* (10s.) to A. H. Bowen for Frame Top-bar Trough Scraper.
- CLASS 148.—THREE VESSELS OF EXTRACTED HONEY, as imported.—Produced in the British Empire (Overseas), excluding Irish Free State. No entry.

INVENTIONS, &c.

- CLASS 149.—ANY NEW APPARATUS OR INVENTION relating to the Dairy industry or one showing distinct and practical improvement, especially as to saving of labour, not eligible for competition in any other Class and not previously having received an Award at any Show of the British Dairy Farmers' Association.—Gold Medal for the best New Invention to U. D. Engineering Co., Ltd., for Cream Filling Machine. Silver Medal to Grandex Cycle Co. for Grandex "Tri-Kon" Milk Conveyor and to Dairy Supply Co. Ltd., for Cream Pot Filler. Bronze Medal to H. C. Stern for "Autolex" (Patent) Hand Capper.

CLASS 150.—LIGHT PORTABLE WEIGHING MACHINE, suitable for use on a Pig Farm and capable of weighing up to 6 cwt. Cost to be taken into consideration. No entry.

CLASS 151.—ANY NEW APPARATUS OR INVENTION relating to the Poultry Industry or one showing distinct and practical improvement especially as to saving of labour, not eligible for competition in any other Class and not previously having received an award at any Show of the British Dairy Farmers' Association.—Silver Medal to C. Hearson & Co., Ltd., for Hearson's All British, All Electric Cabinet Incubator (Bramart Patents). Bronze Medal to Curfew Electric Heaters for Curfew Cabinet Incubator, and to Cope & Cope, Ltd., for Summit Moorcote Hot Water Unit Brooder.

JUNKET-MAKING CONTESTS.

THE "DAILY MAIL" PERPETUAL CHALLENGE BOWL (presented by the PROPRIETORS OF THE "DAILY MAIL") for the Champion Junketmaker.—Awarded to Mrs. J. Mogford.

CLASS 152.—JUNKET MADE WITH MILK.—Open only to those who have never won a First Prize for Junket-making at any Shows of the British Dairy Farmers' Association.

SECTION A.—*First Prize* (£2) to Miss F. E. Anwyl. *Second Prize* (£1) to J. Iceton. *Third Prize* (10s.) to Miss R. M. Pain.

SECTION B.—*First Prize* (£2) to Miss J. M. Olde. *Second Prize* (£1) to Miss M. W. Gwennap. *Third Prize* (10s.) to Miss J. Williams.

SECTION C.—Equal *First Prize* (£1 each) to Mrs. J. Mogford and Miss S. Stephens. *Second Prize* (£1) to Mrs. E. G. Griffiths. *Third Prize* (10s.) to Miss S. M. Stephens.

CLASS 153.—CHAMPION CONTEST.—Open to First Prize Winners in the Sections of the preceding Class and to First Prize Winners at previous Shows of the British Dairy Farmers' Association, Champions of any year excepted.—*Prize* ("Daily Mail" Challenge Bowl and Silver Medal) to Mrs. J. Mogford.

BUTTER-MAKING CONTESTS.

THE "DESBOROUGH" PERPETUAL CHALLENGE CUP (presented by LORD DESBOROUGH, K.G., G.C.V.O.), for the Champion Buttermaker.—Awarded to Miss S. M. Stephens.

CLASS 154.—Open to those who have never won a Prize prior to September 4th, 1933, at any Show, wherever held.

SECTION A.—*First Prize* (£4) to Miss V. Jones. *Second Prize* (£3) to Miss J. C. Williams. *Third Prize* (£2) to Miss E. M. Moseley. *Fourth Prize* (£1) to Miss E. D. Jones.

SECTION B.—*First Prize* (£4) to Miss J. K. Hoy. *Second Prize* (£3) to Miss M. W. Gwennap. *Third Prize* (£2) to Miss E. Griffiths. *Fourth Prize* (£1) to Miss M. Tidd.

CLASS 155.—Open to Students who have attended Classes at the British Dairy Institute, Reading, for not less than one month, during the past two years.—*First Prize* (£4) to Miss F. J. Atkinson. *Second Prize* (£3) to Miss G. Ugalde. *Third Prize* (£2) to Miss M. D. Morris. *Fourth Prize* (£1) to M. G. Dobson.

CLASS 156.—For Men and Women who have never won a First Prize at any Show of the British Dairy Farmers' Association.

SECTION A.—*First Prize* (£4) to Miss G. Olde. *Second Prize* (£3) to Miss E. Birchall. *Third Prize* (£2) to Miss F. Lewis. *Fourth Prize* (£1) to Miss M. E. Sandercock.

SECTION B.—*First Prize* (£4) to Miss M. Julian. *Second Prize* (£3) to Miss H. M. Miles. *Third Prize* (£2) to Miss G. Hankinson. *Fourth Prize* (£1) to Miss E. B. Lewis.

SECTION C.—*First Prize* (£4) to Miss M. A. Edwards. *Second Prize* (£3) to Miss M. Jamieson. *Third Prize* (£2) to Miss V. Jones. *Fourth Prize* (£1) to Miss M. Constance.

SECTION D.—*First Prize* (£4) to Miss M. Lumley. *Second Prize* (£3) to Miss M. W. Gwennap. *Third Prize* (£2) to Miss E. Tucker. *Fourth Prize* (£1) to Miss N. Jones.

SECTION E.—*First Prize* (£4) to Miss S. E. Jones. *Second Prize* (£3) to Miss A. M. Dingle. *Third Prize* (£2) to Miss K. Crow. *Fourth Prize* (£1) to Miss J. M. Olde.

SECTION F.—*First Prize* (£4) to Mrs. J. Mogford. *Second Prize* (£3) to Miss K. M. Webb. *Third Prize* (£2) to Miss N. E. Spencer. *Fourth Prize* (£1) to Miss E. Abbott.

CLASS 157.—CHAMPION CONTEST.—Open to Winners of First Prizes in the Sections of preceding Classes and at any of the last three Shows of the British Dairy Farmers' Association, Champions of any year excepted. *First Prize* ("Desborough" Challenge Cup and Silver Medal) to Miss S. M. Stephens. *Second Prize* (£3 and Bronze Medal) to Miss S. E. Jones.

MILKERS' CONTESTS.

CLASS 158.—Open to Men and Women of 18 years and over.

SECTION A.—*First Prize* (£5) to Miss B. Harries. Equal *Second Prize* (£3 10s. each) to T. H. Reece and G. C. Hesketh. *Fourth Prize* (£1) to J. E. Roberts.

SECTION B.—*First Prize* (£5) to W. J. Wheeler. *Second Prize* (£4) to T. Maunders. *Third Prize* (£3) to Miss M. M. Olde. *Fourth Prize* (£1) to C. W. Rosewell.

SECTION C.—*First Prize* (£5) to E. Blodwell. *Second Prize* (£4) to J. Spencer. Equal *Third Prize* (£2 each) to Miss E. Prestwood and Miss D. Jones.

CLASS 159.—Open to Boys and Girls under 18 years.

SECTION A.—*First Prize* (£5) to Miss M. Phelps. *Second Prize* (£4) to Miss P. Crump. *Third Prize* (£3) to K. J. Rosewell. *Fourth Prize* (£1) to J. A. Danby.

SECTION B.—*First Prize* (£5) to T. B. Robinson. *Second Prize* (£4) to Miss F. E. Anwyl. *Third Prize* (£3) to M. K. Rosewell. *Fourth Prize* (£1) to Miss B. Williams.

CLASS 160.—Open only to Herdsmen attending Cattle at the 1933 Dairy Show. —*First Prize* (£4) to J. H. Brown. *Second Prize* (£3) to H. Corbishley. *Third Prize* (£2) to K. Kernson. Equal *Fourth Prize* (15s. each) to Miss A. Gill and G. F. Herbert. *Sixth Prize* (5s.) to Miss B. Ellis.

CLASS 161.—CHAMPION CONTEST.—Open to Winners of First Prizes in the Sections of Classes 158 and 159 and Class 160. Also to First Prize Winners at the 1932 Dairy Show of the British Dairy Farmers' Association. Champions of any year excepted.—*First Prize* (Cup, Gold Medal and £2) to Miss M. Phelps. *Second Prize* (Silver Medal and £1) to J. H. Brown.

COW-JUDGING CONTEST.

CLASS 162.—Open to Teams of Students from Agricultural Colleges, Farm Institutes, and County Council Classes. *Prize* (British Dairy Farmers' Association's Challenge Cup) to Devon County Agricultural Committee. Silver Medals to Miss G. Figg, W. E. Richards and E. J. Summers—Members of winning team. Bronze Medals to E. J. Banbury, S. J. Honey and G. S. James—Members of the Cornwall County Council team awarded Reserve.

THE OBJECTS OF THE BRITISH DAIRY FARMERS' ASSOCIATION

are the improvement of

DAIRY STOCK AND DAIRY PRODUCE,

by encouraging the Breeding and Rearing of Stock for the special purpose of the Dairy; a larger and better production of Milk, Butter, Cheese, and Eggs; the Erection of Improved Dairy Buildings, and the Invention of New or Improved Dairy Utensils, Machinery, Implements, and Scientific Appliances. The Association also stimulates the Breeding and Rearing of Poultry, &c. By means of Papers in the Association's *Journal* (published annually), Annual Conferences in different dairy districts, Lectures, and Discussions, and in other ways, efforts are continually being made to disseminate a more thorough knowledge of Dairy husbandry. Moreover, prompt action is taken by the Association for the protection of the interests of Dairy Farmers in the event of their being threatened by legislation or by Departmental Orders.

Cash Prizes and Trophies to the approximate value of £6,000 are annually offered for competition at the Dairy Show, held at the Royal Agricultural Hall, Islington, London.

It is difficult to over-estimate the importance and need of greater attention being paid to the Dairy Industry. It is admitted that by improving modes of managing milk and its products, the wealth obtained from the milch cows of the country could be increased most materially. The Council, therefore, appeal to Agriculturists of all classes, and Dairy Farmers in particular, to become Members of the Association, and practically aid in developing its usefulness.

The advantages of Membership comprise :—

- 1.—A free pass to all the Association's Dairy Shows, available each day during the Exhibition, with the privilege of admitting free (by ticket) a friend on any one day.
- 2.—The privilege of participating, at specially low charges, in the Dairy Conferences organised by the Association at home or abroad.
- 3.—The Exhibition of Live Stock, Dairy Produce, and Utensils (for competition) at a reduced scale of fees to Life Members, and to Annual Members subscribing £1 per annum whose subscription for the past year and current year is paid. A reduction of 10 per cent. is allowed to Standholders whose Membership is of 3 years standing.
- 4.—A copy (free by post) of the *Journal* of the Association, published annually.
- 5.—Analyses by the Analytical and Consulting Chemist, at low fees, of samples of milk, cream, butter, cheese, feeding stuffs, water, soil, manures, &c., and advice on dairy matters connected with his department.

- 6.—Bacteriological examination of dairy produce, &c., at reduced fees.
- 7.—Examinations by the Consulting Pathological Bacteriologist for particular pathogenic or disease-producing organisms.
- 8.—Professional advice and assistance at a reduced scale of charges in any case of disease among the live stock of the farm.
- 9.—In any case of apparent hardship in connection with the administration of the Model Milk Clauses, Members are recommended to at once send details of such case to the Secretary, who will submit the matter to the Committee appointed to deal with such matters, after which advice and assistance will be given by the Association.

The Annual Subscription is £1, but Dairy Instructors and Students and full-time Secretaries and Recorders of Milk Recording Societies are admitted on payment of 10s. 6d. per annum. The latter sum entitles Members to all privileges, except the reduced fees for exhibition at the Shows. Life Membership, £15.

Members' Chemical Privileges

Free Analysis.—Each member, whose subscription for the current year is paid, is entitled to one analysis of a dairy product (paragraphs 1 to 9 below) free of charge. A stamped addressed envelope must be forwarded with the sample for the return of the report of the analysis.

Further analyses will be made by the Association's Consulting Chemist at the following reduced fees :—

					£	s.	d.
1.—MILK (Fresh).							
	Estimation of Fat and Total Solids ...	...	...	...	0	1	0
	Estimation of Fat, Casein, Albumen, Sugar, and Ash ...	...	...	...	0	10	0
2.—MILK (Sour).							
	Estimation of Fat and Total Solids ...	...	...	...	0	5	0
3.—SKIMMED MILK.							
	Estimation of Fat and Total Solids ...	...	...	...	0	5	0
4.—CONDENSED MILK.							
	Estimation of Fat ...	...	...	...	0	5	0
	Estimation of Fat, Casein, and Solids ...	...	...	...	0	10	0
	Estimation of Cane Sugar (extra) ...	...	...	...	0	5	0
5.—HUMANISED MILK.							
	Complete Analysis ...	...	...	...	1	1	0
6.—CREAM.							
	Estimation of Fat ...	...	...	...	0	5	0
	Estimation of Fat, Casein, and Solids ...	...	...	...	0	12	6
	Examination for Foreign Fats (extra) ...	...	...	...	0	10	6
7.—BUTTER.							
	Estimation of Water, Fat, Casein, and Ash ...	...	...	...	0	10	0
	Examination for Foreign Fats (extra) ...	...	...	...	0	10	6
8.—CHEESE.							
	Estimation of Water, Fat, Casein, and Ash ...	...	...	...	0	10	0
	Examination for Foreign Fats (extra) ...	...	...	...	0	10	6

9.—RENNET.						£	s.	d.
Examination of Strength	...	...	...	...	...	0	5	0
10.—CAKES AND MEALS.								
Estimation of Oil only	...	...	...	...	...	0	5	0
Estimation of Oil, Albuminoids, Carbo-hydrates, &c.	...	...	...	...	...	0	15	0
11.—GRASS, SILAGE, ROOTS, &c.								
Estimation of Oil, Albuminoids, Carbo-hydrates, &c.	...	...	...	...	...	1	10	0
12.—MANURES.								
Estimation of Soluble Phosphoric Acid	...	...	...	...	...	0	5	0
Estimation of Soluble and Insoluble Phosphoric Acid	...	...	...	...	...	0	7	6
Estimation of Citric Soluble Phosphoric Acid	...	...	...	...	...	0	7	6
Estimation of Nitrogen	...	...	...	...	...	0	5	0
Estimation of Potash	...	...	...	...	...	0	7	6
13.—SOIL.								
Estimation of Lime	...	...	...	...	...	0	5	0
Analysis and Report	...	...	...	...	...	2	2	0
14.—WATER.								
Analysis for Drinking or Dairy Purposes	...	...	...	...	...	1	1	0
15.—POISONS.								
Examination of a Substance for Mineral Poisons	...	...	...	...	...	2	2	0
Examination for Organic Poisons (Alkaloids, &c.)	...	...	...	...	...	3	3	0
16.—CIDER AND FERMENTED DRINKS.								
Estimation of Alcohol	...	...	...	...	...	0	7	6
Estimation of Alcohol, Sugar, Acidity, &c.	...	...	...	...	...	0	15	0
17.—PRESERVATIVES.								
Examining a Substance for Boracic Acid or Salicylic Acid, &c., for each Substance sought	...	...	...	...	...	0	2	6
Estimation of the quantity of Boracic Acid	...	...	...	...	...	0	10	6
18.—CONSULTATION.								
For Letter in reply to Enquiry	...	...	...	...	...	Free		
For Report on a Subject	...	...	...	...	...	0	7	6
For Personal Interview	...	...	...	...	...	0	10	6
For Special Consultation	...	...	...	...	...	1	1	0

NOTE.—The Consulting Chemist will be prepared to quote reduced terms to members requiring a number of analyses at frequent intervals.

Instructions for Taking Fair Samples for Analysis.

Dairy Produce.—Milk should be sent in a well-corked 8-oz. clear bottle. The milk should quite fill the bottle. Butter or cheese, about 8 ounces; the former in a gallipot well tied down.

Soils.—A block of soil about four or five inches square, and nine inches deep, should be sent in a strong box by rail.

Artificial Manures.—Take a handful of manure out of at least half a dozen bags, mix these rapidly and thoroughly, breaking down all lumps. Forward about a pound of the mixture in a tin box, and retain the remainder. Samples of manure should be sent immediately after the delivery of the bulk, and before settling the account. All manures should be bought subject to analysis.

Feeding Materials.—Feeding cakes, meals, or grains : about a pound should be sent in a bag or box. Grass and hay : a bundle of a few pounds weight. Silage : a six-inch cubic block, packed closely in a box to keep it compressed.

Waters.—A Winchester quart glass-stoppered bottle should be procured from a druggist, well washed out with the water, then completely filled, the stopper tied securely down, and the bottle packed in a box and sent by rail.

N.B.—In order to prevent disappointment, the Chemist requests that, as far as possible, Members desiring to hold a personal consultation should make an appointment by letter. Between 10 and 4 are the hours most convenient. The fees for analyses of artificial manures and feeding stuffs are only applicable to Members who are not commercially engaged in their manufacture or sale. All communications intended for the Analytical and Consulting Chemist must be addressed direct to DR. T. J. DRAKELEY, Ph.D., M.Sc., F.I.C., F.C.S., M.I.M.E., 28, Russell Square, London, W.C. 1.

Members' Bacteriological Privileges

Samples of dairy produce, &c., submitted for a bacteriological count, or for examination for *Bacillus Coli*, &c., should be forwarded to DR. T. J. DRAKELEY, Ph.D., M.Sc., F.I.C., F.C.S., M.I.M.E., 28, Russell Square, W.C. 1.

Examinations will be made at the following fees :—

MILK.	£	s.	d.
Bacteriological Examination of "Certified," "Grado A," or "Pasteurised" Milk under the Milk (Special Designations) Order, 1922
Cultural Examination for a particular organism
CREAM, BUTTER, CHEESE.			
Cultural Examination for a particular organism

Directions for Sending Samples.

Samples of milk (one pint) and cream (half pint) should be forwarded in wide-mouthed stoppered bottles which have previously been thoroughly cleaned, and then rinsed several times with very hot, almost boiling, water.

Butter is best sent in a $\frac{1}{2}$ -lb. brick or roll, just as it was made up, wrapped in grease-proof paper, and packed in a box.

If the *Cheese* is small, send a whole one ; otherwise forward a square block of not less than one pound, and not a wedge-shaped piece. Wrap in grease-proof paper and pack in a box.

All samples should be sent by the speediest method possible. They ought not to arrive either on Saturday or Sunday.

Examinations for Pathogenic Organisms.

Samples to be examined for disease-producing organisms should be forwarded to DR. ANDREWES, Pathological Laboratory, St. Bartholomew's Hospital, London, E.C. 1. Members are requested to note that in the case of examination for the tubercle bacillus the method of animal inoculation, which experience has shown to be the only reliable one, will be alone used. It is impossible to carry out the process of sedimentation necessary for the detection of tubercle bacillus in milk which is received in a curdled condition. The report cannot be sent for a period of four to six weeks from the time the sample is received, but in the case of other pathogenic organisms the time required is much shorter.

EXAMINATIONS BY DR. ANDREWES, Pathological Laboratory, St. Bartholomew's Hospital, London, E.C. 1.

MILK.						£	s.	d.
Cultural and experimental examination for a particular	...	...	...	...	...	2	2	0
pathogenic organism ...	...	...	...	...	...
PASTEURISED OR STERILISED MILK.								
Cultural and experimental examination for a particular	...	...	...	...	...	1	1	0
pathogenic organism ...	...	...	...	...	...
CREAM, BUTTER OR CHEESE.								
Cultural and experimental examination for a particular	...	...	...	...	...	2	2	0
pathogenic organism ...	...	...	...	...	...
WATER.								
Cultural and experimental examination for a particular	...	...	...	...	...	2	2	0
pathogenic organism ...	...	...	...	...	...

Members' Veterinary Privileges

Members of the Association who require professional assistance in any case of disease among their animals must apply direct to the Consulting Veterinary Surgeon, Professor G. H. WOOLDRIDGE, Royal Veterinary College, Camden Town, London, N.W. 1, whose scale of charges is as follows :—

	£	s.	d.
Personal Consultation	0	10	6
Post-mortem Examination and Report	0	10	6
Consultation by Letter	0	5	0
Visit and Report, in case of an outbreak of disease, in addition to personal and travelling expenses, per day	2	2	0

Members' Botanical Privileges

The Council have fixed the following rates of charge for the examination of Plants and Seeds for the *bona fide* and individual use and information of Members of the Association (not being Seedsmen), who are particularly requested to mention the kind of examination they require, *and to quote its number in the subjoined Schedule.*

No.	£	s.	d.
1.—A Report on the purity, and amount or nature of foreign materials, of a sample of seed	0	1	0
2.—A Report on the perfectness and germinating power of a sample of seed	0	1	0
Nos. 1 and 2 together	0	1	6
3.—Determination of the species of any weed or other plant, or of any epiphyte or vegetable parasite, with a report on its habits, and the means for its extermination or prevention	0	1	0
4.—Report on any disease affecting farm crops	0	1	0
5.—Determination of the species of a collection of natural grasses found in any district, with a report on their habits and pasture value	0	4	0

Instructions for Selecting and Sending Samples.

The utmost care must be taken to secure a fair, honest sample. When possible, at least one ounce of grass and other small seeds should be sent, and two ounces of cereals or larger seeds. Grass seeds should be sent at least four weeks, and clover seeds two weeks before they are to be used. In collecting specimens of plants, the whole plant should be taken up, and the earth shaken from the roots. If possible, the plant must be in flower or fruit. They should be packed in a light box, or in a firm paper parcel. Specimens of diseased plants or of parasites should be forwarded as fresh as possible—either in a bottle, or packed in tinfoil or oil silk. All specimens should be accompanied with a letter specifying the nature of the information required, and stating any local circumstance (soil, situation, &c.) which, in the opinion of the sender, would be likely to throw light on the inquiry.

The charge for examination must be paid, in Postage Stamps or otherwise, at the time of application, and the carriage of all parcels must be prepaid. It must be distinctly understood that *no notice can be taken* of any application unless it is accompanied by the proper fee.

BRITISH DAIRY INSTITUTE

THE British Dairy Institute was established at Aylesbury in 1888 by the British Dairy Farmers' Association. In order that students might have an opportunity of combining practical dairying with scientific instruction, the Institute was removed in 1896 to Valpy Street, Reading, and placed under a committee which now represents the British Dairy Farmers' Association and Reading University. The Institute at present occupies buildings on the University site in London Road, Reading (the side entrance to the Institute is in Redlands Road).

The Institute contains milk-receiving, buttermaking and milk-testing rooms ; rooms for the manufacture of pressed, unpressed, and soft cheeses ; and ripening rooms for the different varieties of cheese. It is equipped with the best modern apparatus for the manufacture of dairy produce, including power driven separating and buttermaking plant ; and cold storage, ice cream and pasteurizing plants.

The Institute is open in each year from the last Friday in January until the end of the autumn term (the middle of December). Courses at the Institute are open to men and women above the age of 16 years, and all students admitted are thereby subject to University regulations. Except for recognised courses, students may join at any time which the Institute is open, and for any period not less than a week.

Practical and theoretical instruction is given in all branches of dairying, and may be advanced, elementary, or specialised, according to requirements. The manufacture of hardpressed and soft cheeses is taught throughout the time the Institute is open, but Stilton and other blue-veined varieties are not made until May. Instruction is also given in buttermaking, the management of various types of separators, the handling and care of milk, the preparation of starters, &c.

Lectures and demonstrations are usually given in the afternoons, the mornings being devoted to practical work.

The following courses are open to students :—

B.SC., DAIRYING. Duration of course, three years.

First session of three terms—study for Intermediate Examination.

Two sessions—study for Pass Degree.

During the first year a month must be spent at the British Dairy Institute during the vacation following Summer term, and an additional month's experience obtained in a dairy factory. After qualification for the Pass Degree, distinction may be obtained by a further year of advanced work on a chosen subject, and by passing the final examination Reading University.

DIPLOMA IN DAIRYING.

Duration of course two years, exclusive of six months' practical farm experience. Fees £35 first year, £41 second year.

NATIONAL DIPLOMA IN DAIRYING (National Diploma Examination Board).

Duration of course two years, exclusive of six months spent on a dairy farm recognised by the Board. The examination is held in September, and can be taken by students who have followed the Reading University Dairying Diploma course.

CERTIFICATE IN DAIRYING.

Duration of course six months (March—September). This course is suitable for students who wish to qualify for the British Dairy Farmers' Association certificates in butter and cheesemaking (the latter requires an additional six months' cheesemaking experience). Fees £21.

Short courses in practical and theoretical dairying are given by arrangement with the British Dairy Institute. Fees, Cheesemaking 25s. per week ; Buttermaking 12s. 6d. per week.

The full syllabus of courses, details of residence, regulations, uniform, &c., can be obtained on application to the Secretary, British Dairy Institute, Reading.

British Dairy Farmers' Association

Fifty-eighth Half-yearly Report of the Council presented to the Members at the Meeting held at the Dairy Show, Royal Agricultural Hall, Islington, London, N.1, on Wednesday, October 18th, 1933.

In presenting the fifty-eighth Half-yearly Report, the Council has the most painful duty of placing on record the death of Mr. Samuel R. Whitley. Mr. Whitley became a member of the Association in 1896 and was appointed to a seat on the Council in 1901, a position he held until 1925 when he was elected one of the Association's Vice-Presidents. His activities in connection with the London Dairy Show commenced in 1898 as an Assistant Steward and from 1901-8 he was one of the Milking Trial Judges. From 1909-1918 Mr. Whitley was joint steward of General Arrangements with the late Mr. A. Tisdall and in 1919 took sole control, a position he held until his death. Mr. Whitley's kindly advice and untiring efforts in the interests of the dairying industry will be sadly missed by the Members of the Association and particularly those of the Council with whom he laboured for so many years.

In submitting a brief outline of the 55th Annual Dairy Show the Council has great pleasure in once again congratulating the Members upon a most satisfactory entry in all departments. A comparative statement of entries attached to this report indicates the gains and losses in the various sections.

After careful consideration the Council decided to alter the conditions governing the Supreme Individual Championship Challenge Trophy. After the Milking Trial and Butter Test figures are published, a Breed Society may now select animals from the Cow Classes of its respective Breed and the inspection judging will be carried out by one Judge. The maximum number of inspection points will be 125. The best animal shall receive the maximum points and the remaining animals shall receive points according to the Judge's opinion. The judging for this Trophy will take place in the Gilbey Hall at 2.15 p.m. on Thursday, October 19th. The inspection judging for the "Bledisloe" Challenge Trophy, on lines similar to those obtaining last year, will be held in the Gilbey Hall at 2.15 p.m. on Wednesday, October 18th.

The Council has great pleasure in notifying the Members that the Rt. Hon. Lord Bledisloe, G.C.M.G., Governor General of New Zealand,

has very generously presented the following two valuable Trophies for competition at the Dairy Show :—

The “ Bledisloe ” Perpetual Challenge Trophy, value 50 Guineas, will be awarded to the Maker of the best exhibit of Cheddar Cheese produced in the British Empire (Overseas) excluding the Irish Free State.

The “ Bledisloe ” Perpetual Challenge Cup, value 50 Guineas, will be awarded to the Provincial Area of New Zealand showing the best exhibit of Cheese.

It has been agreed to present a Silver Medal of the Association to the winners of these Trophies each year.

The classification provided for dairy produce at the present Show includes the following new classes :—

- (a) Three cans of stone or soft fruit.
- (b) Three cans of vegetables.
- (c) Six jars of National Mark light honey.
- (d) Six jars of National Mark medium or dark honey.
- (e) Ayrshire Dunlop cheese.
- (f) Lancashire long-keeping cheese.

It is very pleasing to report that each of these classes has been well supported.

The applications received in connection with the non-competitive section constitute a record, and it is gratifying to report that all available stand space has been let. Exhibitors will, therefore, be able to place before the visitors to the Show a most comprehensive range of dairy machinery and utensils in the Main Hall and Poultry Appliances in the Galleries.

For the Inter-County Clean Milk Competition, 1932-33, six entries were originally received, but unfortunately two of these were withdrawn. The “ Stapleton ” Challenge Cup and other prizes in connection with this competition will be presented by Major the Rt. Hon. Walter E. Elliot, Minister of Agriculture and Fisheries, to the winners in the Gilbey Hall at 2.15 p.m. on Tuesday, October 17th.

The Council is most pleased to inform the members that the Rt. Hon. The Lord Mayor of London has kindly consented to visit the Dairy Show on the afternoon of Thursday and will present the Individual Championship Challenge Trophy and the three Corporation of the City of London Cups to the respective winners.

Lord Daresbury, C.V.O., has kindly agreed to present the “ Bledisloe ” Challenge Bowl to the winning Breed Society at 3.15 p.m. on Wednesday, October 18th.

While the other departments of the Association's activities will be dealt with in the next annual report, the Council desires to express the hope that Members will use every endeavour during this Dairy Show to interest their friends in the Association's work through the channel of Membership.

Mr. G. Titus Barham has very kindly consented to allow his name to go forward for election as President for 1934. Mr. Barham was elected a Member of the Association in 1882 and appointed to a

seat on the Council in the same year. This position he held until 1916 when he was elected one of the Association's Vice-Presidents, and your vote will be asked in support of his candidature.

The following list of Vice-Presidents has been prepared and your approval will be asked for their election :—

Marquis of Crewe, K.G., P.C., D.C.L.
 Earl of Dartmouth, P.C., K.C.B.
 Earl of Lonsdale, K.G., G.C.V.O.
 Earl of Iveagh, C.B., C.M.G.
 Major Lord O'Hagan.
 Lord Desborough, K.G., G.C.V.O.
 Lord Strachie, P.C.
 Lord Bledisloe, P.C., G.C.M.G., K.B.E.
 Lord Daresbury, C.V.O.
 S. Palgrave Page, J.P.
 John Evens, J.P.
 Major J. A. Morrison, D.S.O.

In accordance with the Articles of Association the following members of the Council retire this year, and have been nominated for re-election :—

G. Berry, Suffolk.	W. J. Golding, Kent.
Mrs. M. Bowes, Durham.	R. Fletcher Hearnshaw, Notts.
A. J. Clare, Somerset.	Sir J. Q. Lamb, M.P., Staffs.
H. Corrie, Surrey.	J. Mackintosh, Berkshire.
R. H. Evans, Carnarvon.	Capt. W. A. Nell, Middlesex.
C. W. H. Glossop, M.P., Yorks.	J. Steel, Berkshire.

The following new candidates have been proposed and seconded :—

John Barnett (Farmer), Brindley Farm, Nantwich, Cheshire.
 Proposed by Lord Daresbury, seconded by Miss N. Bennion.

Walter R. Burrell (Land Owner), Knepp Castle, Horsham, Sussex. Proposed by Sam Woodiwiss, seconded by H. D. Longe.

Tennyson Fawkes (Farmer and Live Stock Exporter), Church Farm, Leonard Stanley, Stonehouse, Glos. Proposed by The Duke of Beaufort, seconded by H. Matthews.

William A. Thompson (Dairy Farmer), Larkenshaw, Chobham, Surrey. Proposed by The Ayrshire Cattle Herd Book Society, seconded by Lord Rowallan.

Mr. Herbert J. Page, of Messrs. Kemp, Chatteris, Nichols, Sendell & Company, will be proposed as the Association's official Auditor with Messrs. R. Fulton, P. Hay and W. E. Manchester, J.P., as Honorary Auditors.

By order of the Council,
 FRED J. BULL,
Secretary.

28, Russell Square, London, W.C.1.

October, 1933.

THE FOLLOWING TABLE GIVES COMPARATIVE DETAILS OF THE ENTRIES AT THE DAIRY SHOW
WITH THOSE OF THE PAST TWELVE YEARS.

	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	1931.	1932.	1933.
Cattle	455	515	539	473	470	449	449	366	356	390	382	344	348
Milking and Butter Tests	614	760	772	718	700	693	737	563	547	628	612	589	581
Goats	101	91	67	72	48	78	68	53	90	80	105	141	120
Poultry	4,348	4,398	4,685	4,498	4,355	4,352	3,888	3,642	3,432	3,395	3,314	3,037	2,933
Pigeons	3,272	3,208	3,115	3,027	3,094	3,180	3,098	3,083	2,959	2,655	2,616	2,306	2,611
Cheese	406	418	488	486	459	489	688	664	519	596	578	462	441
Bacon and Hams ...	56	87	89	113	95	95	105	103	95	120	64	99	76
Butter	322	388	401	483	420	430	488	476	391	413	438	354	297
Cream	32	37	33	30	47	30	43	47	43	64	59	42	37
Honey, &c.	63	58	92	102	53	65	56	38	111	95	85	76	116
Bottled Fruits and Vegetables	25	26	53	65	33	56	80	34	116	87	96	61	119
New and Improved Inventions	38	30	37	37	54	50	57	13	30	20	23	20	25
Roots	148	183	190	283	269	271	242	165	31	12	No class	No class	No class
Butter Making Contests	162	141	129	154	130	131	155	124	152	152	143	124	128
Milkens' Contests	98	44	43	56	51	47	61	44	41	70	71	67	68
Junket-making Contests	8	12	23	33	27	28	38	36	31	42	40	40	50
Collection of Colonial Produce	2	3	3	1	2	—	—	—	—	—	No class	No class	No class
Cow-Judging Contest ...	—	—	7	4	8	10	9	7	10	7	4	7	8
Collection of Produce ...	—	—	—	8	18	9	9	7	33	14	19	9	9
	10,150	10,399	10,766	10,643	10,333	10,464	10,271	9,515	8,987	8,840	8,649	7,841	7,967

FIFTY-EIGHTH ANNUAL REPORT OF THE COUNCIL

for the Year ended 31st December, 1933,

Presented to the General Meeting of Members on
Wednesday, March 7th, 1934

The Council has great pleasure in submitting its 58th Annual Report, together with an Income and Expenditure Account and statement of Assets and Liabilities, and is pleased to record that the Association has, during 1933, well maintained its position and usefulness.

VICE-PRESIDENTS.

Owing to the lamented death of Mr. S. R. Whitley, to which reference was made in the last Half-yearly report and of whom a Memoir, with a photograph, will appear in the next Journal, a vacancy occurred in the list of Vice-Presidents, and Mr. John Evens, J.P., was elected. The Earl of Lonsdale, K.G., G.C.V.O. was voted to fill the vacancy caused by the election of Mr. G. Titus Barham to the Presidency for 1934.

COUNCIL.

At the annual election of Council members at the recent Dairy Show, Mr. J. Barnett and Mr. T. Fawkes were elected to seats on the Council.

MEMBERSHIP.

It is to be regretted that the past year has seen many familiar names removed through death from the Register, and that the number of new members coming forward for election has been less than in other years. The Council realises, however, that it is essential every effort be made to convince agriculturists, dairy farmers in particular, of the importance to them of the British Dairy Farmers' Association. Valuable as has been its work in the past, its policy of encouragement is of vital importance to the dairy farmer of to-day, faced as he is, with the re-organisation of his industry. In their actual working the best laid schemes of men are apt to press heavily upon sections of an industry and call for the co-operation of a free and independent body. Such a body is the British Dairy Farmers' Association which, existing solely for the betterment of dairying, is the one unfettered organisation which may stimulate existing lethargy or control any unplaced zeal.

It is therefore to the interest of all engaged in Dairying to actively support the Association that it may be welded into a strong organisation of actual producers.

The Council, therefore, expresses the sincere hope that members will interest their friends in the Association's activities, and use every endeavour to increase its membership.

THE DAIRY SHOW.

The 55th Annual Dairy Show held at the Royal Agricultural Hall, London, on October 17th to the 20th, maintained its educational value and popularity in all respects. The Show was well supported by all sections of the dairy industry and the competitive entries received totalled 7,967, being 126 in excess of 1932. The applications for stand space for non-competitive exhibits constituted a record. The visitors to the Show, irrespective of exhibitors and members, numbered 46,509, an increase of 3,675 as compared with the previous year.

As the various departments of the Show will be reported upon in Journal, Vol. 46, it is unnecessary to make further comment thereon.

EXAMINATIONS.

During the past year examinations have been held at the following six centres :—

Somerset Farm Institute, Cannington.
 Farm Institute, Sparsholt.
 Studley College, Studley.
 Seale-Hayne Agricultural College, Newton Abbot.
 Agricultural Institution, Usk, Monmouthshire.
 British Dairy Institute, Reading.

and 66 certificates for buttermaking and 40 for cheesemaking were awarded.

The 38th annual examination for the National Diploma in Dairying took place in September at the University and British Dairy Institute, Reading, for English and Welsh students, and at the Dairy School for Scotland, Auchincruive, for Scottish students. At the English centre 68 candidates presented themselves and 37 were awarded the Diploma, one with Honours, while at the Scottish centre 14 candidates were successful out of 32 who attended, one attaining the Honours standard.

MEDAL SCHEME.

Under the above scheme the following medals were awarded during 1933 :—

					Silver.	Bronze.
Dairy Cattle ...	...	...	...	...	11	3
Produce ...	...	...	...	...	4	8
Buttermaking ...	...	...	...	...	5	2
Dairy Herds Competitions ...	...	...	...	...	5	5
Milkers' Contests ...	...	...	...	...	9	7
Cow Judging Contests ...	...	...	...	...	2	3
Poultry Judging Contests ...	...	...	...	...	1	2
					—	—
				TOTALS ...	37	30
					—	—

Clean milk competitions were held in several English and Welsh counties during last year, and the Council awarded a Gold Medal as a provincial championship to the leading competitor in each of six advisory provinces.

CHEESE INDUSTRY.

The critical position of the Cheese Industry received the careful consideration of the Council, and the following resolution was forwarded in March 1933 to the Ministry of Agriculture and Fisheries:—

“That the British Dairy Farmers’ Association is of opinion that the present deplorable position of the Home Cheese Industry is a direct menace to the success of any National Scheme for the sale and purchase of milk, and earnestly requests the Minister of Agriculture to take such steps as will save the Home Cheese Industry from a complete collapse.”

The question of standards for cheese has also been under discussion, and the Ministry of Agriculture and Fisheries and the Departmental Committee on the Composition and Description of Food have been requested by the Council to establish the following standards :—

The names “Cheddar,” “Cheshire,” “Derby,” “Leicester,” “Lancashire” and “Gloucester” shall indicate hard-pressed cheese, processed or otherwise, made from whole milk and containing not less than 45 per cent. of fat in the dry matter.

The names “Stilton” and “Wensleydale” shall indicate blue veined cheese, made from whole-milk and containing not less than 45 per cent. of fat in the dry matter.

Further, that the titles “Cheddar,” “Cheshire,” “Derby,” “Leicester,” “Lancashire,” “Gloucester,” “Stilton” and “Wensleydale” shall not appear in the names or descriptions of cheeses which do not conform to the above standards.

ANGLO-DANISH AGREEMENT.

Particulars connected with the Agreement made by H.M. Government with Denmark early in 1933 have been discussed and the following resolution was forwarded to the Ministry of Agriculture and Fisheries :—

“That the Council of the British Dairy Farmers’ Association expresses its deep regret and concern that His Majesty’s Government did not see its way to consult Bodies representing the dairy interests of this Country before making Agreements with Denmark and other countries, as such Agreements may, in the opinion of this Council, operate very adversely to the interests of the British Dairy Farmers, and, moreover, be likely to prejudice any organised marketing schemes.”

CREAM.

The question of standards for cream has again been under review and the Ministry of Agriculture and Fisheries, and the Departmental Committee on the Composition and Description of Food have been asked to establish cream standards with a minimum butter fat content of 15 per cent., 25 per cent. and 50 per cent. Also that all containers be clearly marked with the minimum butter-fat content.

WORLD’S 10TH DAIRY CONGRESS.

The Council desires to take this opportunity of calling the Members’ attention to the above Congress to be held in Rome and Milan from 30th April to 6th May, 1934.

At the conclusion of the International Dairy Congress held in this Country in 1928, the Association, through the Council, agreed to act on behalf of the dairy industry in matters relating to future International Congresses, and several meetings have been held at which delegates have been appointed to represent the various sections of the industry.

The Council has forwarded ten papers on various subjects to the Italian Committee for discussion at the Congress, and arrangements for travel and accommodation are nearing completion.

It is hoped that many members of the Association will decide to join what promises to be a most instructive and interesting tour. A complete programme together with cost of attending the Congress can be obtained from the Secretary, British Dairy Farmers’ Association, 28, Russell Square, London, W.C. 1.

By order of the Council,

FRED J. BULL,

Secretary.

28, RUSSELL SQUARE,
LONDON, W.C. 1.

THE BRITISH DAIRY

FINANCIAL

Dr.

GENERAL INCOME AND EXPENDITURE

WITH COMPARATIVE

EXPENDITURE.	1933. £ s. d.	1932. £ s. d.
Education, including Examinations, Medal Scheme, Conferences and Inter-County Clean Milk Competition	441 6 8	347 12 0
Journal	594 13 3	662 9 11
Bank Charges, including cost of Cheque Books ...	18 8 4	21 2 1
Rent	240 0 0	240 0 0
Prizes to Exhibitors	3,655 6 5	3,511 3 0
Dairy Show—Hire of Hall, Fittings, Postage and Sundry Expenses	6,168 7 11	6,128 3 8
Working Dairy and Milk Buffet	646 7 4	710 8 10
Catalogues	793 11 7	808 19 5
Salaries	1,121 16 8	1,066 0 0
Wages and Labour	1,182 17 10	1,185 10 1
Printing, Stationery, Postage, and Sundry Office Expenses	315 14 10	324 0 3
Railway Fares for Attendance at Council Meetings	183 16 1	221 10 2
Auditors' Fees, Law Charges, and Officers' Retaining Fees	133 7 0	163 19 10
Depreciation of Furniture	102 1 2	116 7 3
British Dairy Institute—Including Contributions towards estimated loss to 31st December, 1933	758 11 10	318 6 1
Donations—		
National Institute for Research in Dairying	—	250 0 0
Dr. Williams' Memorial Fund	200 0 0	—
National Milk Publicity Council	100 0 0	50 0 0
Royal Agricultural Benevolent Institution	220 10 0	10 10 0
Reading University	5 0 0	—
International Federation de Laiterie	5 5 0	5 5 0
Central Chamber of Agriculture	5 0 0	5 0 0
National Pigeon Association	1 1 0	1 1 0
Empire Dairy Council	—	1 1 0
Superannuation	104 18 6	104 18 6
Stands at Agricultural Shows	31 13 4	35 15 10
General Analyses	28 1 9	16 10 9
Ottawa Conference—Delegates expenses ...	—	143 13 6
BALANCE, being excess of Income over Expenditure	2,249 3 8	2,549 8 9
	<u>£19,307 0 2</u>	<u>£18,998 16 11</u>

FARMERS' ASSOCIATION

STATEMENTS

ACCOUNT for the Year ended December 31st, 1933

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STATEMENT FOR 1932

INCOME.						1933.		1932.	
						£	s. d.	£	s. d.
Subscriptions	1,485	0 0	1,491	13 6
Donations	—		6	6 0
Examinations	...	...	...	...	...	83	17 9	82	19 0
Journal	...	...	...	...	...	116	5 10	108	18 8
Contributions to Prize Fund	...	...	...	...	...	359	1 6	356	5 6
Entry Fees, Competitive and Non-Competitive	...	...	...	...	...	10,523	1 1	10,502	19 8
Profit on Sales of Exhibits, including Commission	...	...	...	...	...	37	17 3	63	8 2
Admission Money	...	...	...	...	...	3,965	3 6	3,711	5 2
Sales in Working Dairy and Milk Buffet	...	...	...	...	...	753	19 2	672	12 4
Catalogues Sales and Advertisements	...	...	...	...	...	732	0 3	792	9 4
Interest on Investments	...	...	...	...	...	1,225	5 0	1,157	4 3
Interest on Bank Deposit	...	...	...	...	...	15	19 10	22	15 10
War Loan Conversion Bonus	—		20	0 0
Hire of Council Room	9	9 0	9	19 6
						£19,307 0 2		£18,998 16 11	

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STATEMENT OF ASSETS AND LIABILITIES, December 31st, 1933.

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LIABILITIES.		f	s.	d.	ASSETS.		f	s.	d.
Sundry Creditors	Investments at Cost Price--				
World's Dairy Congress, 1928	114 4 4	£375 Southern Railway 4% De-				
Surplus of Assets over Liabilities at	...	...	...	5 16 4	benture Stock	265	0	0	
31st December, 1932	...	29,057	14	0	£375 London, Midland & Scottish	280	0	0	
Add Excess of Income over	...	...	...	...	Rly. 4% Debenture Stock	265	0	0	
Expenditure, 1933	...	2,249	3	8	£2,000 India 3% Stock	1,701	9	0	
				31,306 17 8	£1,500 L.C.C. 3% Stock	783	17	0	
					£400 Hertfordshire 6% Stock	389	1	0	
					£2,000 Metropolitan Water Board	1,037	13	0	
					"B" 3% Stock	2,009	19	8	
					£2,000 Commonwealth of Australia	1,900	4	0	
					3½% Loan, 1946/49...	9,597	19	6	
					£2,000 New South Wales 5% Stocks,	5,064	0	0	
					1932/43	4,888	12	8	
					£12,000 Conversion Loan 3½%	886	7	0	
					£5,000 New Zealand 5% Stock, 1935/45				*20,159 11 10
					£7,500 Consolidated 2½% Stock				
					£1,000 Local 3% Loan				
					Furniture and Appliances :				
					Value at 31st December, 1932,	963	6	3	
					plus additions at cost	102	1	2	
					Less Depreciation				
					Sundry Debtors :				
					Dairy Show, 1933				9 3 5
					Cash at Bank and in hand				1,996 18 0
									£31,426 18 4

*The value, according to Market Price, of these Investments at 31st December, 1933, was £34,447.

REPORT OF THE AUDITORS TO THE MEMBERS OF THE BRITISH DAIRY FARMERS' ASSOCIATION.

WE have audited the foregoing Statement of Assets and Liabilities and the Income and Expenditure Account with the books and accounts of the Association. We have received all the information and explanations we have required. In our opinion such Statement of Assets and Liabilities is a full and fair statement containing the particulars required by the Regulations of the Association, and properly drawn up so as to exhibit a true and correct view of the state of the Association's affairs according to the information and explanations we have received and as shown by the Books.

23rd January, 1934.

(Signed) HERBERT J. PAGE, *Chartered Accountant.*
 ROBERT FULTON } *Hon.*
 PERCY T. HAY } *Members.*
 W. E. MANCHES } *Assessors.*

The British Dairy Farmers' Association

Particulars of Medal Distribution Scheme.

THE Council of the British Dairy Farmers' Association is prepared to consider applications from Educational Centres and Approved Societies in the United Kingdom for their Silver and Bronze Medals to be awarded in connection with dairying and dairy farming under the following conditions, viz. :—

1. All applications must be made on the official form and must clearly state the object for which the Medal or Medals are required.
2. Only one application from any Institution or Society can be considered in any one year.
3. The application must be repeated annually if medals are again required.
4. A copy of the draft prize list, showing the proposed conditions for the award of the Medal, should accompany the application, and the offer of a Medal cannot be confirmed until the prize list has been approved by the British Dairy Farmers' Association.
5. The British Dairy Farmers' Association stipulates that no entry fee shall be charged in respect of these Medals, which are offered as Special Extra Prizes.
6. Notification of the award, with the winner's full name and address, together with a marked catalogue of the Show, to be forwarded to the Secretary, British Dairy Farmers' Association, 28, Russell Square, London, W.C.1, within 14 days of the award being made.
7. A person may not receive more than one Medal under this Scheme for the same subject or exhibit during any one year.
8. This Scheme shall come into operation on January 1st, 1931, and shall take the place of all previous Schemes.

DAIRY PRODUCE AND BUTTERMILKING.—The B.D.F.A. will consider applications on behalf of County or similar Shows for a Silver Medal as a Championship award.

The B.D.F.A. Bronze Medals may be available for local Shows and in each case shall only be awarded to the best exhibit or competitor.

CATTLE.—The B.D.F.A. Silver Medals will only be awarded at County and similar Shows to cows or heifers which are milk-recorded under the Ministry of Agriculture Scheme.

Such Medals shall only be awarded to animals which have produced not less than the undermentioned minimum milk yields either during a lactation period of 315 days or for any one completed year of a recognised Milk Recording Society:—

Dairy Shorthorns, Lincoln Red Shorthorns, Blue Albions, British Friesians, Red Polls, Ayrshires, South Devons, Guernseys and Jerseys, 8,000 lbs. at 5 years old or over, or 6,000 lbs. at under 5 years.

Devons, Kerries and Welsh Blacks, 7,000 lbs. at 5 years old or over, or 5,500 lbs. at under 5 years.

Dexters, 5,000 lbs. at 5 years old or over, or 3,750 lbs. at under 5 years.

The B.D.F.A. Bronze Medals for cattle will be available only at Local Shows under similar conditions.

The B.D.F.A. Silver Medals will only be awarded to Bulls out of recorded cows.

DAIRY HERDS.—The B.D.F.A. will consider applications for Silver or Bronze Medals by the authorities organising dairy herd competitions.

Such medals shall only be awarded to herds which are recorded under the Ministry of Agriculture's Milk Recording Scheme.

CLEAN MILK COMPETITIONS.—The Gold Medal of the British Dairy Farmers' Association will be awarded to the leading competitor in each of the advisory provinces as arranged by the Ministry of Agriculture and Fisheries, if the competition is carried out in accordance with the Ministry's scheme

MILKING COMPETITIONS.—The B.D.F.A. will consider applications for Silver or Bronze Medals by the authorities organising County and District Milking Competitions.

Such Medals shall only be awarded where the milking competitions are judged in conformity with the scale of points issued by the Ministry of Agriculture, or as used at the Dairy Show.

OTHER COMPETITIONS.—The B.D.F.A. will consider applications for medals from properly constituted authorities for such other competitions as may be designed to lead to improvements in the practice of Dairy Farming or Dairying.

In the event of any dispute as to the interpretation of these Rules the Council of the British Dairy Farmers' Association reserves full power of decision, and in the event of the Medal not being awarded in accordance with the above Rules and Conditions, the Council reserves the right to withhold the Medal altogether.

MEDALS AWARDED DURING 1933

Applicant.	Show held at	Date.	Medal.	Winner and Object.
Devon Cattle Breeders' Society	Exeter	Feb. 15	Bronze	R. Bruford, for Devon Bull "Nerrols Milkman," as best dairy bull out of a milk recorded cow
Yeovil Bull Show	Yeovil	Feb. 17	Bronze	W. Batsmore & Sons, for Shorthorn Bull "Athelemy Minstrel Prince 2nd," as best dairy bull out of a milk recorded cow
Newark Agricultural Society	Newark	May 15 and 16	Bronze	Miss M. G. Heath, Champion Buttermaker
Oxfordshire Agricultural Society	Witney	May 16 and 17	Silver	J. F. Godwin, for Ayrshire Cow "Pearl," as best milk recorded cow or heifer
Devon County Agricultural Association	Houlton	May 17-19	Silver	Miss K. M. Blackmore, Champion Buttermaker
Royal Cornwall Agricultural Society	St. Austell	May 24 and 25	Silver	Darlington Hall, Little for South Devon Cow "Cherry Blossom 2nd," as best milk recorded cow gaining highest points in Milk Trials and Butter Tests
Shropshire and West Midland Agricultural Society	Shrewsbury	"	Silver	Mrs. S. Haring, for best exhibit of butter
Cambridgeshire and Isle of Ely Agricultural Society	Ely	May 30	Silver	J. C. Morgan, for Shorthorn Cow "Severnvale Rosebud 2nd," as best milk recorded dairy cow or heifer
Royal Counties Agricultural Society	Bournemouth	May 31-June 3	Silver	Lt.-Col. E. C. Atkins, for Shorthorn Cow "Baskerville Greenleaf 2nd," as best milk recorded dairy cow or heifer
Suffolk Agricultural Association	Bury St. Edmunds	June 1 and 2	Silver	Miss F. G. M. Seymour, Champion Buttermaker
Three Counties Agricultural Society	Worcester	June 6-8	Silver	Miss H. Fincham, Champion Buttermaker
Yealington Agricultural Association	Yealington	June 7	Bronze	Miss A. Stratton, Champion Buttermaker
Essex Agricultural Society	Roehampton	June 7 and 8	Silver	Miss A. Dennis, for butter as best exhibit of Butter or Cream
Yorkshire Agricultural Society	Middlesbrough	June 11-13	Silver	E. Digby, Champion Milk
Monmouthshire County Council	Chepstow	June 12 and 13	Silver	Mrs. J. Bolderston, Champion Buttermaker
"	"	"	Bronze	W. Duthie, gaining first place in Milkers' Contest for Men
"	"	"	Bronze	D. Aplin, gaining first place in Milkers' Contest for Boys
"	"	"	Bronze	Miss M. Williams, gaining first place in Milkers' Contest for Girls
"	"	"	Bronze	Joseph Conolly, gaining first place in Milkers' Contest for Students of the Monmouthshire Agricultural Institute
Staffordshire Agricultural Society	Monmouth	June 14 and 15	Silver	Lt.-Col. E. C. Atkins, for Shorthorn Cow "Sally Wild Eyes 26th," as best milk recorded dairy cow of Butter
Bedfordshire Agricultural Society	Trentonham	"	Bronze	Miss C. Conolly, for best exhibit of Butter
"	Amptill	July 20	Silver	F. W. Gilbert, for best milk recorded cow or heifer
"	"	"	Silver	F. W. Gilbert, for British Friesian Bull "Harrington Lochinvar," as best dairy bull out of a milk recorded cow
Royal Welsh Agricultural Society	Aberystwyth	July 20-28	Silver	Miss M. Davies, Champion Milk
Royal Lancashire Agricultural Society	Salford	Aug. 3-7	Silver	Miss M. M. Varley, for best exhibit of Butter
Harrowgate Agricultural Society	Harrowgate	Aug. 7	Bronze	Miss A. M. Ward, for best exhibit of Butter
North-East Somerset Farmers' Club	Pensford	"	Bronze	Osborne Bros., for exhibit of Cheese
"	"	"	Bronze	Mrs. R. G. Pobjoy, for best exhibit of Butter
"	"	"	Bronze	Mrs. R. W. Haine, for best exhibit of Cheese
Berkley Hunt Agricultural Society	Berkley	"	Bronze	Miss G. Pursey, for best exhibit of Butter
"	"	"	Bronze	"

MEDALS AWARDED DURING 1933.—*continued.*

Applicant.	Show held at	Date.	Medal.	Winner and Object
United Counties Agricultural Society	Carmarthen	Aug. 10	Silver	Pibwldwyd Institute Farm, for Shorthorn Cow "Checkdown Primrose 2nd," as best milk recorded dairy cow or heifer
Devonock Agricultural Society	Sennybridge	Sept. 2	Bronze	Miss N. Roderick, Champion Buttermaker
Dorchester Agricultural Society	Dorchester	Sept. 7	Silver	K. N. Tofy, for Shorthorn Cow "Anderson Bianca 10th," as best milk recorded dairy cow
" " "	" " "	" "	Silver	R. N. Tofy, for Shorthorn Bull "Anderson Impetrial Cran," as best dairy bull out of a milk recorded cow
Nidderdale Agricultural Society	Pateley Bridge	Sept. 25	Bronze	Miss P. L. Mudd, for best exhibit of Butter
Frome District Agricultural Society	Frome	Sept. 27	Bronze	Mattick Bros., for Shorthorn Cow "Chilcompton Belle Maid," as best milk recorded dairy cow
Kent Milk Recording Society	Kent	Oct 1, 1932— Sept 30, 1933	Silver	R. Sillars & Son, gaining first place in Dairy Herds Competition
"Sussex Milk Recording Society	"East Sussex	" "	Bronze	H. E. Crawford, gaining second place in Dairy Herds Competition
" " "	" "	" "	Silver	John Martin, gaining first place in Dairy Herds Competition
Somerset & North Dorset Milk Recording Association	Somerset and North Dorset	" "	Bronze	A. H. Keevil, gaining second place in Dairy Herds Competition
West Sussex Milk Recording Society	West Sussex	" "	Silver	Major H. M. Martin, gaining first place in Dairy Herds Competition
Worcestershire Milk Recording Society	Worcestershire	" "	Bronze	T. B. Richards, gaining second place in Dairy Herds Competition
East Devon Milk Recording Society	East Devon	" "	Silver	Miss G. M. Aspinall, gaining first place in Dairy Herds Competition
National Association of Young Farmers' Clubs	Dairy Show, London	Oct. 19	Silver	N. M. Barron, gaining second place in Dairy Herds Competition
" " "	" "	" "	Silver	W. Turner, gaining first place in Dairy Herds Competition
" " "	" "	" "	Bronze	Mrs. W. Turner, gaining second place in Dairy Herds Competition
" " "	" "	" "	Silver	W. R. Greenshields, for Guernsey Cow "Ayesha of Tregooning," as milk recorded cow giving highest yield of Butter-fat
" " "	" "	" "	Silver	M. Laidler, gaining highest points in Cow Judging Contest
" " "	" "	" "	Silver	J. W. Thomas, gaining highest points in Cow Judging Contest
" " "	" "	" "	Bronze	W. R. Thomas, gaining second highest points in Cow Judging Contest
" " "	" "	Oct. 20	Silver	W. R. Thomas, gaining third highest points in Cow Judging Contest
" " "	" "	" "	Bronze	T. Briggs, gaining highest points in Poultry Judging Contest
" " "	" "	" "	Bronze	Miss E. Hedley, gaining second highest points in Poultry Judging Contest
Lancashire Cheese & Dairy Show Association	Preston	Oct. 21	Bronze	F. Hopner, gaining third highest points in Poultry Judging Contest
Oxfordshire Agricultural Committee	Oxfordshire	Nov. 3	Silver	C. Coell, for best exhibit of Cheese
" " "	" "	" "	Silver	B. Robb, for best first place in Milkers' Contest for competitors over 18 years of age
" " "	" "	" "	Bronze	Miss R. R. Purdie, gaining second place in Milkers' Contest for competitors over 18 years of age
" " "	" "	" "	Silver	Miss D. Lambden, gaining first place in Milkers' Contest for competitors under 18 years of age
" " "	" "	" "	Bronze	K. Goddard, gaining second place in Milkers' Contest for competitors under 18 years of age
Gloucestershire Root, Fruit & Grain Society	Gloucester	Nov. 9	Silver	Mrs. N. H. Barton, for best exhibit of Butter

MEDALS AWARDED DURING 1933.—*continued.*

B.D.F.A. Medal Scheme.

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Applicant.		Show held at	Date.	Medal.	Winner and Object.
Hampshire County Council	...	Martyr Worthy	Dec.	Silver	J. McKeever, gaining first place in Milkers' Contest for milkers regularly employed on farms licensed for the production of graded milk
"	"	"	"	Bronze	A. Robinson, gaining second place in Milkers' Contest for milkers regularly employed on farms licensed for the production of graded milk
"	"	"	"	Silver	F. C. Nicholls, gaining first place in Milkers' Contest for competitors over 18 years of age
"	"	"	"	Bronze	Mrs. K. A. A. Hawkins, gaining second place in Milkers' Contest for competitors over 18 years of age
"	"	"	"	Silver	E. Port, gaining first place in Milkers' Contest for competitors under 18 years of age
"	"	"	"	Bronze	Miss A. J. Brown, gaining second place in Milkers' Contest for competitors under 18 years of age

GOLD MEDALS AWARDED FOR PROVINCIAL CLEAN MILK COMPETITIONS, 1932-3.

Winner.	County.	Provincial Centre.	Provinces.
Exors. of the late A. S. Bowby	Hertfordshire ...	Cambridge University	Bedfordshire, Cambridgeshire, Essex, Hertfordshire, Huntingdonshire, Isle-of-Ely, Lincolnshire (Holland and Kesteven), Norfolk, Soke of Peterborough, Suffolk (East and West).
J. Altham & Sons	Lancashire ...	Manchester ...	Cheshire and Lancashire.
A. W. Windridge	Warwickshire ...	Harper Adams College	Shropshire, Staffordshire and Warwickshire.
E. Wood	Yorkshire ...	Leeds University	North, East and West Ridings of Yorkshire.
Mrs. L. F. Risdell	Essex ...	Cambridge University	Bedfordshire, Cambridgeshire, Essex, Hertfordshire, Huntingdonshire, Isle of Ely, Lincolnshire (Holland and Kesteven), Norfolk, Soke of Peterborough, Suffolk (East and West).
C. M. Roberts	Middlesex ...	Reading University	Berkshire, Buckinghamshire, Dorset, Hampshire, Isle of Wight, Middlesex, Northamptonshire, and Oxfordshire.

British Dairy Farmers' Association

SCHEME FOR AN INTER-COUNTY CLEAN MILK COMPETITION, 1932-33.

STAPLETON CUP.

THIS Cup has been presented to the Association to be used as an Instrument to encourage improved methods of milk production in the Counties of England and Wales, and the Association has decided that the purpose can best be served by offering the Cup as a Trophy to be held for a year by the County making the greatest progress (as judged by the method later detailed) in Clean Milk Production during the year immediately preceding.

The awards will be made on a consideration of several factors, but mainly on the progress made under the Schemes of technical assistance provided by the local authorities for Agricultural Education and recognised by the Ministry of Agriculture. In particular, attention will be paid to the results obtained in the County Clean Milk Competition, and in order to emphasise the importance attached to the conduct of these educational competitions, it is required that in the case of a County winning the Cup, its custody for a year shall be given to the milk producer of that County who, for the year under review, obtained the highest position in any of his County Competitions.

In addition to offering the Cup, the Association will award each year in the three leading Counties :—

1st Prize, £50, to the County Competitor holding the highest position in any Clean Milk Competition held within the County accorded first place in the Inter-County Clean Milk Competition.

2nd Prize, £25, to the County Competitor holding the highest position in any Clean Milk Competition held within the County accorded second place in the Inter-County Clean Milk Competition.

3rd Prize, £10, to the County Competitor holding the highest position in any Clean Milk Competition held within the County accorded third place in the Inter-County Clean Milk Competition,

and to the head Cowman of the winners respectively £10, £8 and £6. The head Cowmen receiving these money prizes will also receive from the Association a free Railway Pass to London together with a ticket of admission to the London Dairy Show, so that they may receive the awards in person.

The Association has determined, therefore, that every award shall be made in accordance with the following conditions, and in compliance with the following scale of points.

CONDITIONS.

1. The Clean Milk Competitions Advisory Schemes for Milk Producers, Milkers' Competitions, and Demonstrations which shall be considered must be only those provided by the local Educational Authority, and recognised by the Ministry of Agriculture. The total entry in the Clean Milk Competition and/or the Advisory Schemes for Milk Producers must be not less than 20.

2. Any Clean Milk Competition to be eligible for recognition in this Competition :

(a) Must have been conducted in accordance with the directions given in the Guide to the Conduct of Clean Milk Competitions published by the Ministry of Agriculture (Bulletin No. 46).

(b) Must have been of not less than six months' duration covering the period January to June, inclusive, which alone will be considered.

(c) The system of bacteriological testing must have been carried out strictly in accordance with the methods prescribed in the Ministry's Guide.

(d) During the accounting period (January to June) the samples taken shall have been not less than 9, of which at least 3 shall have been surprise samples.

3. In order to equalise the scoring between large and small Counties and between Counties varying in respect of the concentration of milk production, marks shall be allowed based (a) on the percentage number of the total producers in the County attending the demonstrations ; (b) on the number of samples examined in connection with advisory schemes which reached a definite standard in respect of bacterial content and keeping quality ; (c) on the number taking part in the Clean Milk Competitions and (d) on the number of Milkers taking part in Milkers' Competitions.

4. An allowance of marks shall be made for the number of licensed producers of graded milk in the Competing County.

5. The holding of this Inter-County Competition in any year shall be dependent upon not less than four entries being received by the prescribed date, and when held, the announcements of the awards shall, for the year immediately preceding, be made in October at the Association's Annual Dairy Show.

6. The Competition year shall, for all purposes, be that which lies between July 1st and the next succeeding June 30th. Thus, the award to be made in October, 1933, shall be for the year commencing July 1st, 1932, and ending June 30th, 1933, it being understood :—

(a) That the accounting County Clean Milk Competition shall cover the period January 1st—June 30th in that year, and shall be accounted only for that period, no matter whether or not it exceeds that period.

(b) That the demonstrations, milkers' competitions and advisory schemes for milk producers shall be accounted for the full year.

(c) That the number of licensed producers shall be the number existing in the County Council area on the last day of the year (June 30th).

7. A County desiring to enter this Competition must provisionally signify the same in writing to the Secretary of the British Dairy Farmers' Association, 28, Russell Square, London, W.C. 1, not later than June 30th, 1932, and confirm such entry on or before December 31st, 1932. (There shall be no entrance fee).

8. A competing County must submit to the Secretary of the Association by August 30th, immediately succeeding the year of competition (a) a full report on the Clean Milk Competition; (b) full particulars of the milk examinations made in connection with advisory schemes for milk producers including dates of sampling; (c) a complete return in respect of the demonstrations and also milkers' competitions; and (d) a return in respect of the number and nature of the licensed producers of graded milk.

SCALE OF POINTS ON WHICH AWARDS SHALL BE MADE.

(1) Relating to County Clean Milk Competitions and Advisory Schemes for Milk Producers. For each herd in excess of 30 (combined entry) 5 points :—

Number of herds taking part in the clean milk competition for first time	10 points for each.
For each one per cent. of herds in the clean milk competition gaining not less than $66\frac{2}{3}$ per cent. of possible marks for inspection	5 points.
Ditto for bacteriological count	5 „
Ditto for absence of B. Coli ...	5 „
Ditto for keeping quality ...	5 „
Ditto for absence of sediment	2 „
For each Competitor gaining 75% or over of the total marks available in the County Competition	5 points.
In connection with the regular examination of milk samples in advisory schemes for milk producers. For each sample which judged in accordance with the scale of marks used in connection with clean milk competitions, would	

have received 75% or more of the marks available, under each of the following heads :—
bacterial count, B. coli, and keeping quality, maximum ... 5 points.

(2) Relating to Clean Milk Production Demonstrations :—

On the relationship of the total number of attendances at Clean Milking Demonstrations to the total number of Dairy Farmers in the administrative area ...

... 5 pts. for each 1%

(3) Relating to Milkers' Competitions held under the direction of County Educational Authorities :—

2 points to be awarded for each Competitor in the Milking Competitions gaining 75% marks or over, and where there is a total number of at least twenty Competitors within the year an additional 3 points will be awarded for each 1% of Competitors gaining 75% marks or over.

(4) Relating to the number of licensed producers :—

For each licensed certified Milk producer ... 5 points.

For each Grade "A.T.T." Milk producer ... 5 "

For each Grade "A" Milk producer ... 3 "

with an additional allowance of 20 points for each producer taking out a license for Graded Milk, for the first time, during the year of competition.

The scoring of the competing Counties in accordance with the scale shall be carried out by a panel of judges appointed by the British Dairy Farmers' Association and consisting of :—

One nominee of the British Dairy Farmers' Association.

" " " National Institute for Research in Dairying.

" " " Ministry of Agriculture and Fisheries.

The decision taken by the panel of judges shall in all cases be final.

NOTE.—In each instance "County Area" means "County Council" area.

By order of the Council,

FRED J. BULL,

28, RUSSELL SQUARE,
LONDON, W.C. 1.

Secretary.

British Dairy Farmers' Association

PRIZE ESSAY ON A DAIRYING SUBJECT.

The Council offers a Prize of £15 and the B.D.F.A. Silver Medal for an Essay upon any practical or scientific subject relating to Dairy Farming or Dairying, conditionally upon sufficient merit being shown.

Preference will be given to one based on the original work and experience of the writer. Where the work of others is relied upon, full references must be given, either in footnotes or by numbers (1), (2), &c., with a list of authorities at the end.

The Essay should not exceed 5,000 words, and must be received by the undersigned on or before 1st December.

An Essay must be sent in a sealed envelope, bearing a *nom de plume*, and in another sealed small envelope, also bearing the *nom de plume*, the Author must insert his name and address.

The Prize Essay will be the property of the Association. Others will be returned to their respective Authors, but the Association reserves the right to retain Essays on subjects suitable for inclusion in the Annual Journal, which will be paid for at 10s. 6d. per Journal page.

FRED. J. BULL,
Secretary,
28, Russell Square, London, W.C.1.

The British Dairy Farmers' Association

Suggestions to Farmers as to how best to ensure THE CLEANLINESS OF THE MILK SUPPLY.

The attainment of a clean milk supply is largely dependent upon the action of Dairy Farmers themselves.

Every Dairy Farmer is financially interested in this question. Public doubt of the cleanliness of the milk supply means reduced demand for fresh milk. Public confidence means increased use of milk as food and drink—consequently a larger demand.

Any Dairy Farmer by want of reasonable care can jeopardise the reputation of the whole industry and thus destroy the good work of those whose efforts are to increase the consumption of milk.

The co-operation of every producer is confidently requested.

The main points to be emphasised are :—

- (1) That consumers are entitled to receive milk which is clean and wholesome.
- (2) That the precautions necessary to produce clean, wholesome milk are easy, simple and inexpensive.

Briefly these precautions are :—

- To keep the milk sheds and cows as clean as possible.
- To clean the udders and hindquarters and, before milking, wipe the udders with a clean damp cloth, rinsed after every cow.
- To use a partly covered milking pail.
- To see that milkers milk with clean hands.
- To strain the milk through a strainer fitted with a suitable filtering medium which should be sterilised before each milking.
- To empty water from cooler before washing.
- To rinse utensils in cold water. Thoroughly wash in hot water and soda and scald in boiling water or, preferably, sterilise with steam or by boiling in water.
- To stand utensils upside down to drain after cleaning and NOT to wipe them.

THIS ASSOCIATION APPEALS TO EVERY DAIRY FARMER TO PUT THESE PRECAUTIONS INTO OPERATION, BEING CONVINCED THAT IF PRODUCERS DO NOT TAKE MEANS TO ENSURE A CLEAN, WHOLESOME MILK SUPPLY THE DEMAND FOR FRESH MILK WILL SERIOUSLY DIMINISH.

Correspondence on this subject will receive attention at the Offices of the Association, 28, Russell Square, London, W.C. 1.

National Dairy Examination Board

APPOINTED BY

THE ROYAL AGRICULTURAL SOCIETY OF ENGLAND,
THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND
THE BRITISH DAIRY FARMERS' ASSOCIATION.

Regulations and Syllabus for the National
Diploma in the Science and Practice of Dairying,
1933

1. The Societies may hold annually in England and in Scotland, under the management of the National Dairy Examination Board appointed by them, one or more examinations for the National Diploma in the Science and Practice of Dairying; the Diploma to be distinguished shortly by the letters "N.D.D."

2. The Examinations will be held on dates and at places from time to time appointed and duly announced.

3. Forms of Entry for the Examination in England may be obtained from "The Secretary, Royal Agricultural Society of England, 16, Bedford Square, London, W.C. 1," and must be returned to him duly filled up, with the necessary entry fee (see Regulation 13).

4. Forms of Entry for the Examination in Scotland may be obtained from "The Secretary, Highland and Agricultural Society of Scotland, 8, Eglinton Crescent, Edinburgh," and must be returned to him duly filled up, with the necessary entry fee (see Regulation 13).

5. Any candidate may enter for the Examination either in England or Scotland, but not in both, and a candidate who has once taken part in an Examination in England cannot enter for an Examination in Scotland, or *vice versa*. *An exception may be made in favour of a candidate re-appearing under Regulation 11 (3) provided special application is made at the time of entry.*

6. As a preliminary to the acceptance of an application for permission to enter for the Examination, a candidate must produce :—

- (1) A certificate testifying that he or she has attended a Diploma Course in the subjects of the Examination covering *two academic years* at an approved Dairy Training Institution and has satisfied the authorities of the Institution of his or her fitness for admission to the Examination. This period shall include six session months' instruction (consisting of not more than two periods), in practical dairy work.
- (2) Evidence that he or she has spent at least six months on an approved Dairy Farm and taken part in the work. This period must not run concurrently with the six months' practical training referred to in subsection 1.

A Dairy Farm to be approved must have not fewer than fifteen cows kept in daily milking.

7. A candidate who has already taken a Degree in Agriculture of a British University or a Diploma in Agriculture recognised by the National Dairy Examination Board, will be allowed to enter for the National Diploma in Dairying Examination after one year's subsequent training at an approved Dairy Training Institution, providing that such course includes at least six months' training in practical dairy work, and that he or she has worked for at least six months on an approved Dairy Farm.

8. In the Examination a candidate will be required to satisfy the Examiners by means of written papers, practical work, and *viva voce*, that he or she has :—

- (1) A general knowledge of the Management of a Dairy Farm, including the rearing and feeding of Dairy Stock, the candidate being required to satisfy the Examiners that he or she has had a thorough training and practical experience in all the details of Dairy work as pursued on a farm.
- (2) A thorough acquaintance, both practical and scientific, with everything connected with the management of a Dairy, and the manufacture of Butter and Cheese.
- (3) A general knowledge of Dairy Factory Management, Dairy Hygiene, Dairy Engineering and Dairy Book-keeping.

- (4) Practical skill in Dairying, to be tested by the making of Butter and Cheese.

NOTE.—A candidate must be prepared to make any one of the following varieties of Hard Pressed Cheese, the Examiner in Cheesemaking having the option of saying during the Examination what variety a candidate shall make :—

At the English Centre :—Cheddar, Cheshire or Derby.

At the Scottish Centre :—Cheddar, Dunlop or Cheshire.

9. Candidates will have the option of :—

- (a) Taking the whole Examination at one time ; or
(b) Taking the Examination in two parts.

A candidate taking the Examination in two parts must take the following subjects at the first sitting: DAIRY FARMING, DAIRY HYGIENE, PRINCIPLES OF DAIRYING, DAIRY FACTORY MANAGEMENT AND DAIRY ENGINEERING, PRACTICAL CHEESEMAKING AND BUTTER-MAKING ; the remaining three Papers, CHEMISTRY AND PHYSICS, DAIRY BACTERIOLOGY, and DAIRY BOOK-KEEPING, to be taken at the Examination in the following year.

10. The maximum marks obtainable and the marks required for a pass in each subject are as follows :—

WRITTEN EXAMINATION—				Max.		Pass.
Dairy Farming ...	...	...	...	150	...	90
Dairy Hygiene ...	...	...	...	100	...	60
Dairying—						
(a) Principles of Dairying	...			150	...	90
(b) Dairy Factory Management and Dairy Engineering	...			100	...	50
Chemistry—						
(a) General Chemistry and Physics	}			100	...	60
(b) Dairy Chemistry						
Dairy Bacteriology ...	...	...	...	100	...	60
Dairy Book-keeping ...	...	...	...	100	...	50
PRACTICAL EXAMINATION—						
Hard-pressed Cheese-making	...	...	...	200	...	150
Blue-veined Cheese-making	...	...	...	100	...	75
Soft Cheese-making	...	...	...	100	...	75
Butter-making	...	...	...	200	...	150
				
				1,400	...	910

Honours will be awarded to candidates obtaining an aggregate of 80 per cent. (1,120) of the maximum marks (1,400) in the Examination, provided that they also obtain at least 80 per cent. (400) of the maximum marks (500) in the Dairy Farming, Hygiene, and Dairying papers.

11. A candidate taking the whole Examination at one time—
- (1) who fails in any part of the practical examination shall fail in the whole examination.
 - (2) who fails in four or more subjects of the written examination shall fail in the whole examination,
 - (3) who having passed in the practical examination, fails in not more than three subjects of the written examination, may, at the discretion of the Board, appear for those subjects in the following year.

12. A candidate taking the Examination in two parts, and failing in a *single subject* in the first part of the Examination, may, at the discretion of the Board, appear for that subject along with the second part; or, in the case of a *single subject* of the second part, in the following year. Failure in more than one subject will be regarded as failure in that part of the Examination. Failure in any part of the Practical Examination will entail complete failure.

13. The entrance fees will be as follow :—

	£	s.	d.
For the whole Examination taken at one time ...	3	3	0
For the Examination taken in two parts :			
First part	3	3	0
Second part	1	1	0
For re-appearance, 10s. 6d. each subject.			

14. The Board reserve the right to postpone, to abandon, or in any way or at any time to modify an Examination, and also to decline at any stage to admit any particular candidate to the Examination.

SYLLABUS OF SUBJECTS OF EXAMINATION

Answers to all Questions must be written in **INK**.

1.—DAIRY FARMING AND DAIRY HYGIENE.

(a) Dairy Farming.

Soils and Crops.—Types of Soils suitable for dairying. Rotations and systems of cropping. Cultivation, manuring and management of grain, root and forage crops used in dairying. Silage. Temporary and permanent pastures, haymaking.

Plant Physiology.—Roots, shoots, flowers, fruit and seeds of agricultural plants.

Dairy Cattle.—Characteristics of different breeds. Relation of conformation and appearance to Milk Yield. Choice of dairy cattle in relation to climate and soil. The milk yields of the more important breeds, and suitability for the milk trade, cream, butter and cheese production.

The management of a Dairy Herd. Cattle breeding and grading up of dairy stock. Calf rearing and management of young stock.

Milk Recording. Systems, and utilisation of results. Details of official schemes.

Foods and Feeding.—Summer and winter feeding of dairy cattle and young stock. Fodder crops and green forage. Roots. Ensilage. Concentrated foods, meals, cakes. Preparation of food. The effect of food on milk and its products.

Pig Keeping.—Characteristics of the more important breeds. The breeding, rearing and fattening of pigs. Production of pork and bacon.

Farm Management.—Systems of dairy farming. The selection, stocking and equipment of typical farms. Organisation of the farm and disposal of produce.

Dairy Economics.—The Dairy Industry of Great Britain and its relationship to Agriculture. The relative importance of the various products. The retail milk trade. Markets, Dairy organisation and co-operation. Modern developments in the Dairy industry. Sources of imported Dairy Produce.

(b) Dairy Hygiene.

Animal Physiology.—General functions of the organs of the animal body. Breeding. Parturition. The structure of the udder and the process of milk secretion. Changes which food undergoes during digestion.

Veterinary Science.—The more important diseases of dairy cattle and their treatment. The transmission and eradication of disease.

Milk Hygiene.—Sanitary conditions. Suitability of water supply. Methods of milking and handling of milk. Regulations affecting milk production. Milk in relation to Public Health.

Farm Buildings.—Situation, chief dimensions and construction of cow houses and dairy buildings. Housing for young stock and pigs. Air space and ventilation, drainage and water supply.

2.—DAIRYING.

(a) Principles of Dairying.

Milk—Milking by hand and machinery. Importance of cleanliness. Cooling of milk. Prevention of contamination. Pasteurisation. Sterilisation. Keeping of milk. Milk testing and sampling. Use of Gerber and Babcock Testers. Interpretation of results. Legal standards. Legislation affecting milk production.

Cream.—Separators and their management. Different systems of cream raising and ripening of cream. Changes during ripening. Natural and artificial ripening, and preparation and uses of starters. Preparation of cream for sale. Uses of preservatives. Clotted cream.

Butter.—Churns and butter-making appliances. Preparation of cream for churning. Washing and working butter. Butter milk. Packing and transmission of butter. Selection and keeping of butter. Salting. Use of preservatives. Characteristics of good butter and method of judging. Circumstances affecting the flavour, texture, colour and keeping qualities of butter. Potting butter for keeping. Causes of inferior butter.

Cheese.—Principles of manufacture. Appliances for cheese-making. The making of the principal varieties of British, Colonial and Continental cheese from cream, whole milk and skim milk. Acidity of milk. Common tests for acidity. Uses of rennet and its substitutes. Whey. Ripening and storage of cheese. Packing and sale of cheese. Making of cream and other soft cheese. Defects in cheese and their causes. Judging cheese.

(b) Dairy Factory Management and Dairy Engineering.

Factory Practice.—Milk depots and handling of factory milk. Systems of cooling and refrigeration. Pasteurisation. Factory butter and cheese-making. Milk Powders. Condensed milk. Frozen milk. Ice cream. Dried casein. Fermented milk. Lactose and whey-butter. Margarine manufacture. Equipment of milk depots, butter, cheese and dairy factories.

Factory Management.—Factory routine. Organisation of labour. Handling of milk on arrival at the factory. Methods of dealing with the milk. Milk contracts. Dairy factory legislation.

Dairy Appliances and Machinery.—Appliances used in the production and handling of milk, butter and cheese. Care and management of engines and boilers, dairy factory machinery, refrigerating machinery.

Buildings.—Situation, construction and drainage of creameries, milk depots and dairy factories.

3.—CHEMISTRY.

(a) General Chemistry and Physics.

Chemistry.—Elements, compounds and mixtures. Chemical symbols, formulæ and equations. Acids, bases, salts: their distinctive properties. Acidity and alkalinity; their quantitative

estimation. The Atmosphere: its constituents and impurities; influence on dairying operations. Water: its constitution; pure and natural waters; impurities in water and whence derived. Importance of a good water supply in dairying. General knowledge of elementary chemistry. Oxygen; hydrogen; carbon; nitrogen; phosphorus and sulphur; common metals; common acids; compounds of potassium, sodium, ammonium, calcium.

Elementary organic chemistry; sugar, milk sugar, starch, alcohol, acetic acid, formaldehyde, butyric acid, lactic acid, glycerine, saponification of fats; albumen, casein, pepsin.

Physics.—The different forms of matter; solid, liquid, gaseous. Specific gravity and instruments for determining it. Temperature and methods of measuring it. Expansion; thermometric scales. Influence of temperature in dairy operations. Atmospheric pressure and its measurement. Hygrometry. Heat and its measurement; specific heat. Latent heat. Conduction. Convection. Radiation. Solution. Filtration. Distillation. Simple machines, such as levers, pulleys and light weighing machine.

(b) Dairy Chemistry.

Chemistry of Milk.—The nature, composition, properties and chemical constituents of milk. Microscopical appearances presented by milk. The influence of feeding. The changes which occur in the keeping of milk, and how produced. The natural and artificial souring of milk. Rennet, its nature and uses.

Milk Products.—Physical and chemical changes involved in the making and keeping of butter and in the manufacture and ripening of cheese. Separated milk. Condensed milk. Fermented milk. Synthetic milk. The use of preservatives.

Dairy Analysis.—Analytical methods, their theory and practice. A general knowledge of the methods employed in the chemical analysis of milk, butter and cheese. Adulteration of milk, cream, butter and cheese, the ways in which adulteration is practised, the changes in composition thereby produced and a general knowledge of the methods employed in detecting the same.

Chemistry of Feeding.—The principal constituents of food materials and the functions they severally fulfil. The influence of food constituents on milk production. Assimilation and digestion. The manurial value of foods. Milk and milk products as foods.

N.B.—Candidates are required to bring to the Oral Examination their Laboratory note books in sections (a) and (b) of this subject certified by their teachers as being the record of their laboratory work carried out during the course.

4.—DAIRY BACTERIOLOGY.

General Bacteriology.—Bacteria; their form, classification, growth and reproduction. The microscope and its use. Staining and microscopic examination of bacteria. Methods of isolation and cultivation. Preparation of culture media. Fermentations and chemical changes produced by bacteria. Enzymes and their action. Effects of heat, cold, sterilisation, pasteurisation, disinfectants and preservatives on bacteria and enzymes. Bacteriological examination of water supplies.

Bacteriology of Milk.—The changes produced by bacteria in milk. Useful forms and their functions. Harmful forms and their effects. Coagulation, discolouration, taints, &c. Bacteriological and other standards in relation to the cleanliness of milk.

Milk Products.—The bacteria concerned in the ripening of cream and butter making. "Starters," their preparation and management. The ripening of hard, soft and blue-veined cheese. Bacteria injurious to milk products, including condensed and dried milk.

Dairy Mycology.—Moulds and yeasts in dairy practice. Their form, classification, growth and relation to dairy products.

N.B.—Candidates are required to bring to the Oral Examination in this subject their Laboratory notebooks certified by their teachers as being the record of their laboratory work carried out during the course.

5.—DAIRY BOOK-KEEPING.

Reasons for keeping accounts on the farm and in the dairy factory.

General principles of double-entry book-keeping. Use of day-book, journal, ledger, cash-book, analysis cash-book, and petty cash book. Preparation of profit and loss account, capital account and balance sheet. Adjustments necessary for the owner-occupier.

Valuations. Basis of valuations for accounting purposes on the farm and in the dairy factory. Dates for stock-taking.

Methods of accounting suitable for dairy farms and factories. Forms for milk-retailing, cheese-making, and butter-making.

Preparation of a cost account for milk production.

Interpretation and use of accounting results, with special reference to their practical application.

Opening a Bank account. Cheques, deposits, and over-drafts. Assessment of the Farmer for Income Tax purposes.

6.—PRACTICAL SKILL IN DAIRY WORK.

Candidates must be prepared—(1) to produce before the Examination a satisfactory certificate of proficiency in the milking of cows, signed by a practical Dairy Farmer, and to satisfy the Examiners by a practical test, if so required ; (2) to churn and make into Butter a measured quantity of Cream ; and (3) to make one Cheese of each of the following varieties :—(1) Hard-pressed, of not less than 30 lb. (See Note to Reg. 8 (4). (2) Veined or blue-moulded of not less than 10 lb., and (3) also to make one or other of the following Soft Cheeses : Cambridge, Camembert, Coulommier, or Pont l'Évêque.

The British Dairy Farmers' Association

CERTIFICATE IN DAIRY FACTORY MANAGEMENT.

Candidates for the Certificate in Dairy Factory Management must fulfil the following conditions :—

1. They must possess an approved Diploma in Dairying.
2. They must have had six months' practical instruction at an approved dairy factory, or at an approved dairy factory school.
3. They must obtain 60 per cent. of the possible marks in the examination for the Certificate in Dairy Factory Management.

Examination for the **CERTIFICATE IN DAIRY FACTORY MANAGEMENT.**

1. Two papers will be set on the subjects outlined in the following syllabus.
2. Candidates will be examined orally in Factory Management with reference to the type of factory in which their practical training has been obtained.
3. Candidates must submit to the Examiners full notes of the work which has been carried out in the factories in which their practical experience has been obtained.

SYLLABUS OF EXAMINATION.

This Syllabus should not be viewed from a purely engineering standpoint, but students will be expected to have a general knowledge of the management of factory machinery :—

Paper 1.—Planning, Equipment and Management of a Dairy Factory.

Dairy Factories.—Site, building materials, construction, laying of floors, lighting, ventilation, drainage, sanitation, disposal and treatment of sewage and factory waste. Space requirements for the common types and sizes of factories.

Water Supply.—Water requirements ; sources of supply. Examination for quality and purity. Methods of purification. Suitability of water supplies for dairy purposes. Sites for wells. Construction of wells. Artesian wells. Pumps for deep and shallow wells. Air-lift pumps.

Factory Equipment.—Artificial lighting and sources of power in the factory. Equipment required for various types of factories and approximate cost of same. The disposition and control of factory machinery.

Steam Plant.—Types of vertical and horizontal boilers and their relative advantages and disadvantages. Sizes of boilers required in dairy factories. Evaporating power of boilers. Setting and insulation. Cleaning out of boilers. Economical firing. Fuel used, *e.g.*, coal, coke and wood. Cost and calorific value. Fuel consumption and cost of steam production. Allocation of steam supply to different purposes in the factory. Boiler smoke stacks and their construction. Boiler fittings, including donkey pumps and water injectors. Feed heaters. Methods of economising steam supply.

Factory Machinery.—Steam, gas and oil engines. Electric motors, turbines, water power, comparison of the various types and their relative efficiency. Construction and working of the various types. Cost of maintenance. Power requirements of the factory and the most suitable combinations of power when different sources of energy are available. The management and fitting up of machinery, including electric fittings. Adjustment of bearings. Packing of glands. Fixing of brackets, &c. Lubrication of machinery. Oil containers and filters. Lubricants. Lubrication of high-speed machinery. Oils and grease for shafting. Arrangement of machinery and methods of transmitting power. Belts, types and uses. Repairs to belting. Pulleys and gearing. Methods of increasing and reducing speed. Labour-saving devices. Tools required for a dairy factory.

Factory Plants.—Construction and operation of milk apparatus, including clarifiers, pasteurisers, separators, milk pumps, refrigerators, &c. Refrigerating machinery, CO₂ and ammonia. Methods of operation and management. Cold storage and brine cooling. Efficiency in the transfer of heat in heating and cooling apparatus. Methods of carrying out efficiency tests under different conditions and outputs. Factory appliances including cheese vats, holding vats, power churns, bottling machinery and other factory equipment. Their approximate cost and suitability of the various types. Methods of cleaning equipment, utensils and milk churns.

Factory Management.—Organisation of labour. Business management. Book-keeping. Cost accounts. Profit and loss in

manufacturing. Stock-taking and depreciation. Railway rates and conditions. Road transport. Systems and comparative costs. Advertising. Markets and sale of produce. Co-operative organisation.

Factory Law.—Law as far as it affects the factory, the management and the produce. Factory and Workshops Act. Workmen's Compensation. Health Insurance. Employer's Liability and Trade Boards Acts. Industrial and Provident Societies Act. Rivers Pollution Act. Sale of Foods and Drugs Act. Milk and Dairies Acts, and other legislation as it affects the working of factories and the manufacture and sale of dairy produce.

Paper 2.—Handling and Utilization of Milk and Milk Products.

Handling of Milk.—Purchase, collection and distribution of milk. Management of milk on arrival at the factory. Weighing, sampling, testing, recording and cleaning. Methods of paying for milk and cream.

Utilization of Milk.—Methods of dealing with milk for sale for cream production, buttermaking, cheesemaking, and for the manufacture of other products.

Factory Products.—Preparation of cream for market. The manufacture and treatment of butter and cheese. Manufacture of condensed and powdered milk, casein and milk sugar, &c. Ice cream manufacture, &c. The utilization of by-products.

Pig-Keeping.—Feeding and management of pigs. The production of pork and bacon. Bacon curing.

The Entry Fee for each Candidate is £4 4s.

Any further particulars and Entry Forms for this Examination may be obtained from—

THE SECRETARY,

BRITISH DAIRY FARMERS' ASSOCIATION,

28, Russell Square, London, W.C.1.

Examination for **CHEESEMAKING CERTIFICATE.**

The Association grants to any Candidate who satisfactorily passes the necessary Examination—

A Certificate of Merit for Proficiency in the Theory and Practice of Cheesemaking.

The Examination, which will extend over two or more days, will test the Theoretical Knowledge of the Candidates and their Practical Skill in Cheesemaking. Each Competitor will be required to answer, in writing, a set of questions within a given time, and will also be examined *viva voce*. On the same or following day a Practical Examination in Cheesemaking will take place.

Candidates will be considered to have passed the Examination if they obtain not less than 60 per cent. of the marks on each and every written paper and not less than 66 per cent. in the Practical Test.

Candidates for this Certificate must, at the time of entry, produce satisfactory evidence that they have received at least twelve months' instruction in the Theory and Practice of milk production and Cheesemaking, of which at least six months must have been spent at a recognised centre for dairy instruction. They must possess a sound knowledge of the subjects included in the following Syllabus.

Candidates will be required to make one Hard-pressed Cheese, either Cheddar, Cheshire or Derby, to be selected by the Examiner, and one Blue-veined Cheese, either Stilton or Wensleydale, to be selected by the Candidate. They must also have a knowledge of the manufacture of other varieties of Hard-pressed Cheese and of Soft Cheese.

Candidates are at liberty to bring their own utensils for the Practical Examination if they wish to do so.

The Examination for Cheesemaking Certificates is held at the British Dairy Institute, Reading, in the Autumn of each year, upon dates announced in the *Agricultural and Dairy Press*.

Entries will close 28 days prior to the date fixed for the Examination.

The Entry Fee is 10s.

SYLLABUS.

1. *Milk*.—The Food Value of Milk; The Yield of Milk from various Breeds; Secretion of Milk and Structure of the Udder; Milking by Hand and Machine; Handling of Milk from Cow to Dairy; Importance of Cleanliness; Production of Highest Grade Milk; Cooling of Milk; Sale of Milk; Influence of Food on the Yield, Flavour and Fat Contents of Milk; Composition of Milk, Nature and Properties of its Constituents; Differences between Morning and Evening Milk and their Causes; Methods of Sampling and Simple Methods of Testing Milk, as the Lactometer, Creamometer, and Centrifugal Fat Testers; Testing for Acidity; Causes of Fermentation; Colostrum, its Nature and Properties; the Keeping of Dairy Records; the Handling of Evening's Milk for Cheesemaking; Properties of Milk suitable for Cheesemaking; Taints in Milk, their Causes, Effects and Remedies; Tests for such Taints; the Ripening of Milk for Cheesemaking; Methods and Reasons for Ripening; use of Natural and "Culture" Starters; Pasteurisation of Milk; Chilled Milk; their subsequent use for Cheesemaking; Special Testing of Milk, Whey, and Curd requisite in a Cheese Dairy; Utilization of Dairy By-products.
2. *Cheese*.—Rennet: its Preparation, Properties, and Action upon Milk; Testing its Strength; Storage of Rennet; Substitutes for Rennet; Anatto; a General Knowledge of the Manufacture of the Principal Varieties of Hard-pressed, Blue-veined and Soft Cheeses, including the use of wood and metal tubs and jacketed vats; Methods of Scalding; the Development and Control of Acidity in Curd; Salting and Brining in Cheesemaking; Bandaging; Ripening and Storing of Hard-pressed, Blue-veined and Soft Cheeses; Defects in Cheese and their Causes; Composition of Cheese; Composition and Utilization of Whey; the Manufacture of Whey Butter; the Equipment of a Cheese Dairy and its Cost; the care of Utensils; the Detailed Principles and Practice requisite for the Manufacture of one of the following types of Cheese :—
 - (a) A Hard-pressed British Cheese (not less than 25 lbs. weight).
 - (b) A Blue-veined British Cheese (not less than 10 lbs. weight).

Any further particulars and Entry Forms for this Examination may be obtained from—

THE SECRETARY,
BRITISH DAIRY FARMERS' ASSOCIATION,
28, Russell Square, London, W.C. 1.

Examination for
BUTTERMAKING CERTIFICATE.

The Association grants to any Candidate who satisfactorily passes the necessary Examination—

**A Certificate of Merit for Proficiency in the Theory and Practice of
Buttermaking.**

The Examination, which will extend over two or more days, will test the Theoretical Knowledge of the Candidates and their Practical Skill in Buttermaking. Each Competitor will be required to answer, in writing, a set of questions within a given time, and will also be examined *viva voce*. On the same or following day a Practical Examination in Buttermaking will take place.

Candidates will be considered to have passed the Examination if they obtain not less than 60 per cent. on each and every written paper, and not less than 66 per cent. in the Practical Test.

Candidates for this Certificate must, at the time of entry, produce satisfactory evidence that they have received at least three months' instruction (not necessarily at a Dairy School) in the theory and practice of Milk and Cream production and management, and Buttermaking. They must possess a sound knowledge of the subjects included in the following syllabus.

Candidates are at liberty to bring their own utensils for the Practical Examination if they wish to do so.

The Examination for Buttermaking Certificates is held at the British Dairy Institute, Reading, in the Autumn of each year, upon dates announced in the Agricultural and Dairy Press.

Entries will close 28 days prior to the date fixed for the Examination.

The Entry Fee is 5s.

SYLLABUS.

1. *Milk*.—The Food Value of Milk ; the Yield of Milk from various Breeds ; Secretion of Milk and Structure of the Udder ; Milking by Hand and Machine ; Handling of Milk from Cow to Dairy ; Importance of Cleanliness ; Production of Highest Grade Milk ; Cooling of Milk ; Sale of Milk ; Influence of Foods on the Yield, Flavour and Fat Contents of Milk ; Composition of Milk, Nature and Properties of its constituents ; Differences between Morning and Evening Milk and their causes ; Methods of Sampling and Simple Methods of Testing Milk, as the Lactometer, Creamometer, and Centrifugal Fat Testers ; Testing for Acidity ; Causes of Fermentation ; Colostrum, its Nature and Properties ; the Keeping of Dairy Records.
2. *Cream*.—The Various Methods of Obtaining Cream ; the Construction and Use of the Utensils employed ; Separators, the Construction and Use of the various Types ; Composition of Cream, Separated Milk, Skimmed Milk, and Buttermilk, with Simple Tests for Fat in same ; the Ripening of Cream—Objects and Results ; Changes during Ripening ; Testing for Acidity ; Natural and Artificial Ripening and Preparation of Starters ; the Preparation of Cream for Churning ; Preparation of Cream for Sale ; Clotted Cream.
3. *Butter*.—The Various Methods of obtaining Butter, including the Churning of Whole Milk ; Utensils required, and the Preparation, Use, and Care of same ; the Process of Butter Manufacture in all its details ; Conditions which affect the Butter Yield ; Circumstances affecting the Flavour, Texture, Colour, and Keeping Properties of Butter ; Dry-salting and Curing of Butter ; Faults in Butter and their Causes ; Composition and Properties of Good Butter ; Composition and Causes of Inferior Butter ; Methods of Judging Butter.

Any further particulars and Entry Forms for this Examination may be obtained from—

THE SECRETARY,

BRITISH DAIRY FARMERS' ASSOCIATION,

28, Russell Square, London, W.C. 1.

EXAMINATIONS

AT

LOCAL CENTRES.

In order to meet the convenience of Students at Dairy Schools, members of local Societies, and other persons, the Association will conduct Examinations for its Certificates at any place in the United Kingdom upon receiving satisfactory proof that the following conditions will be observed :—

That the School, Society, County Council, or other body requesting such Examination to be held undertake :—

- (1) To supply all necessary appliances and materials.
 - (2) To pay the fees and expenses of the Examiners.
 - (3) To supply the milk required free from preservatives and fit for Cheesemaking.
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Copies of Question Papers set at recent Examinations may be obtained at 3d. per copy.

Applicants are requested to state whether Cheese or Butter questions are required.

Further particulars and Entry Forms for Students may be obtained from—

THE SECRETARY,

BRITISH DAIRY FARMERS' ASSOCIATION,

28, Russell Square, London, W.C. 1.

National Dairy Examination Board

Appointed by the Royal Agricultural Society of England, the Highland and Agricultural Society of Scotland, and the British Dairy Farmers' Association.

Report on the Results of the Thirty-eighth Examination for the National Diploma in Dairying 1933.

1. The fifth Examination under the auspices of the present Board—and the Thirty-eighth Annual Examination for the National Diploma in Dairying—was, by the courtesy of the Authorities, held during September at the University and British Dairy Institute, Reading, for English and Welsh students, and at the Dairy School for Scotland, Auchincruive, Ayr, for Scottish students.

2. As a preliminary to the acceptance of an application for permission to enter for the Examination, a candidate was required to produce :—(1) A certificate testifying that he or she had attended a Diploma Course in the subjects of the Examination covering *two academic years* at an approved Dairy Training Institution; (2) Evidence that he or she had spent at least six months on an approved Dairy Farm and taken part in the work.

3. A candidate who had already taken a Degree in Agriculture of a British University or a Diploma in Agriculture recognised by the Board, could enter for the Examination after one year's training at an approved Dairy Training Institution, providing that such course included at least six months' training in practical dairy work, and that he or she had worked for at least six months on an approved Dairy Farm.

4. The written Examination included papers in Dairy Farming, Dairy Hygiene, Principles of Dairying, Dairy Factory Management and Dairy Engineering, Chemistry and Physics, Dairy Bacteriology, and Dairy Book-keeping. The Practical Examination comprised Hard-pressed, Blue-veined, and Soft Cheese-making, and Butter-making.

5. Amended Regulations this year gave a candidate the option of taking the whole examination at one time, as heretofore, or of taking only Part I., which omits Chemistry, Bacteriology and Book-keeping. These last three subjects—constituting Part II—have to be taken at the examination of the year following that at which Part I. was passed.

6. A candidate taking the whole examination, who, having passed in the practical examination, failed in not more than *three* subjects of the written examination might, at the discretion of the Board, appear for those subjects in the following year. A candidate who failed in four or more subjects of the written examination, or in any part of the practical examination, failed in the whole examination.

7. A candidate taking the examination in two parts, and failing in a *single subject* in Part I., might at the discretion of the Board, appear for that subject along with Part II.; or, in the case of a *single subject* of Part II., in the following year. Failure in more than one subject was regarded as failure in that part of the Examination. Failure in any part of the practical examination entailed complete failure.

8. At both Centres the same questions were answered by the candidates from September 7 to 9. The Practical Examination as well as the *viva voce* was conducted at the English Centre from September 11 to 15 and at the Scottish Centre from September 19 to 23.

9. Of the 68 candidates who presented themselves at the English Centre 14 appeared for re-examination in subjects in which they had previously failed, 52 took the whole examination, and two entered for Part I. only.

Thirty-seven candidates were awarded the Diploma, one *with Honours*. Their names in alphabetical order are as follows:—

ENGLISH CENTRE.

DIPLOMA WITH HONOURS.

Richard J. Gayton.

DIPLOMA.

Helen M. Bennett, Ellen Birchall, Leopold F. Brinkman, Elizabeth G. Bunting, Frederick G. Byford, Jessie Chapman, Robin Cousins, John Downey, Mary M. L. Eaton, William J. Elgie, John B. Fry, Frances C. Gee, Constance O. Gill, Thomas Goss, Ellen M. P. Gray, Marjorie M. Haley, Mary G. Heath, Arthur Hutchings, Christopher Kingsley, Hilda Kohn-Speyer, Elizabeth M. Laity, Monna D. Light, Mary Lumley, Dudley A. T. Maynard, Mary H. Miller, Laura J. Parry, Ronald J. Reith, Vera Ross, Cyril Rowe, Charles A. Stanger, Mary Storoy, Margaret B. Taylor, Anthony T. G. Trew, Thomas C. Waterman, Ruth M. West, John A. Wyatt.

One candidate was successful in passing Part I., and will be entitled to present himself for Part II., in 1934:—

PASSED PART I.

Grenville R. H. Bishop.

Thirteen candidates failed in not more than three subjects, for which they will be allowed to reappear at next year's Examination.

10. Thirty-two candidates presented themselves at the Scottish Centre, of whom six were re-examined in subjects in which they had failed in 1932; the other 26 took the whole examination. Fourteen candidates succeeded in passing the examination (of whom one attained to the Honours standard):—

SCOTTISH CENTRE.

DIPLOMA WITH HONOURS.

John Thacker.

DIPLOMA.

Edith J. Anderson, Jane M. Brown, Charles J. Bryden, Eric Butterfield, Jessie C. Cameron, Thomas C. Creyke, Ali Hasan Fahmi, Jessie L. Hood, James K. Lamberton, Nan McConachie, Evelyn M. Morrison, Jessie Munro, Katharine Wright.

Eleven candidates failed in not more than three subjects for which they will be permitted to reappear in 1934.

All the candidates at the Scottish Centre had been students at the Dairy School for Scotland, Auchincruive, Ayr.

11. The Examiners at both Centres were: Alex. F. Smith, N.D.A., N.D.D., C.D.D. (*Dairy Farming, Dairy Hygiene and Practical Butter-making*); Edward Capstick, M.C., M.Sc., N.D.A., N.D.D. (Hons.) (*Principles of Dairying, Dairy Factory Management and Dairy Engineering, and Practical Cheese-making*); T. J. Drakeley, D.Sc., Ph.D., F.I.C. (*Chemistry and Physics*); A. T. R. Mattick, B.Sc., Ph.D. (*Dairy Bacteriology*); H. W. Kersey (*Dairy Bookkeeping*).

Results of Examinations held by the British Dairy Farmers' Association during 1933.

EXAMINATION FOR BUTTERMILKING CERTIFICATES AT THE SOMERSET FARM INSTITUTE, CANNINGTON; ON MONDAY AND TUESDAY, MARCH 27th AND 28th.

A Certificate of Merit for Proficiency in the Theory and Practice of Buttermaking awarded to Monica Anstey, Grace Bennett, Susan Bennett, Dorothy Connett, Isobel M. Gardiner, Clifford James, Clarence Kallaway, Robert E. Moxham, Emily Joan Snook and Thomas J. Yeatman.

EXAMINATION FOR BUTTERMILKING AND CHEESEMAKING CERTIFICATES AT THE FARM INSTITUTE, SPARSHOLT; ON TUESDAY, WEDNESDAY, THURSDAY AND FRIDAY, JULY 11th, 12, 13th AND 14th.

A Certificate of Merit for Proficiency in the Theory and Practice of Buttermaking awarded to Irene E. Clarke, Annie J. Drinkwater, Cecilia M. Fletcher, Edna Foster, Hilda M. Fry, Lucy E. C. Garrett, Edith Heal, Joan C. Langham, Stella R. Plaire, Ivy S. Walbridge, Matilda R. Ward and Joan M. Whidbourne.

A Certificate of Merit for Proficiency in the Theory and Practice of Cheesemaking awarded to Cecilia M. Fletcher, Edna Foster, Lucy E. C. Garrett, Joan C. Langham, Stella R. Plaire, Ivy S. Walbridge and Matilda R. Ward.

EXAMINATION FOR BUTTERMILKING CERTIFICATE AT THE SEALE-HAYNE AGRICULTURAL COLLEGE, NEWTON ABBOT; ON THURSDAY AND FRIDAY, JULY 20th AND 21st.

A Certificate of Merit for Proficiency in the Theory and Practice of Buttermaking awarded to Gabra-Madhin Awaka, Ernest H. Ball, George E. Berry, Henry W. Hicks, George H. Hughes, Dudley A. T. Maynard, Kenneth L. Richards, Arthur T. Thwaites and Douglas R. Woosley.

EXAMINATION FOR BUTTERMILKING AND CHEESEMAKING CERTIFICATES AT STUDLEY COLLEGE, STUDLEY; ON MONDAY, TUESDAY AND WEDNESDAY, JULY 24th, 25th AND 26th.

A Certificate of Merit for Proficiency in the Theory and Practice of Buttermaking awarded to Joyce A. Holden, Vere Shaw and Margaret J. P. Wesson.

A Certificate of Merit for Proficiency in the Theory and Practice of Cheesemaking awarded to Ruth M. C. Christie, Jean L. Cole, Dorothea Nance, Vere Shaw and Audrey Wharton.

EXAMINATION FOR BUTTERMILKING AND CHEESEMAKING CERTIFICATES AT THE AGRICULTURAL INSTITUTION, USK, MONMOUTHSHIRE; ON MONDAY, TUESDAY AND WEDNESDAY, AUGUST 14th, 15th AND 16th.

A Certificate of Merit for Proficiency in the Theory and Practice of Buttermaking awarded to Roger B. Bigland, Joseph Conolly, Redmond Conolly, John T. P. Davies, E. John Davies, Olwen Doherty, Nancy Dowle, Doris E. Edwards, Elwyn Morris, Winifred M. Reynolds, Paul W. Robson, Lorraine A. M. Rogers, H. Frederick Wilkins and Kenneth P. Williams.

A Certificate of Merit for Proficiency in the Theory and Practice of Cheesemaking awarded to John T. P. Davies, Joyce M. Davies, Olwen Doherty, Nancy Dowle, Doris E. Edwards, Winifred M. Reynolds and Lorraine A. M. Rogers.

EXAMINATION FOR CHEESEMAKING CERTIFICATE AT THE SEALE-HAYNE AGRICULTURAL COLLEGE, NEWTON ABBOT; ON THURSDAY AND FRIDAY, AUGUST 31st AND SEPTEMBER 1st.

A Certificate of Merit for Proficiency in the Theory and Practice of Cheesemaking awarded to Gabra-Madhin Awaka, George H. Hughes, William G. Lawrence, Thomas H. Matthews, Arthur T. Thwaites and John A. Wyatt.

EXAMINATION FOR BUTTERMILKING AND CHEESEMAKING CERTIFICATES AT THE BRITISH DAIRY INSTITUTE, READING; ON MONDAY, TUESDAY AND WEDNESDAY, SEPTEMBER 18th, 19th AND 20th.

A Certificate of Merit for Proficiency in the Theory and Practice of Buttermaking awarded to Frances J. Atkinson, David A. Carter, Poppy Chelmick, Robert L. Cooper, William J. Elgie, Sadek N. Elias, Michael F. Essame, Barbara R. Fairbridge, Jasper Frankenburg, John B. Fry, Richard J. Gayton, Ellen M. P. Gray, Albert M. Harrison, Kathleen M. Jack, Cyril Rowe, Mary Storey, Ruth M. West and Basil Wyruboff.

A Certificate of Merit for Proficiency in the Theory and Practice of Cheesemaking awarded to Marjorie H. Ashton, Frances J. Atkinson, David A. Carter, Robert L. Cooper, William J. Elgie, Michael F. Essame, Barbara R. Fairbridge, John B. Fry, Richard J. Gayton, Ellen M. P. Gray, Albert M. Harrison, Cyril Rowe, Mary Storey, Ruth M. West and Basil Wyruboff.

National Dairy Examination Board

Papers set for the National Diploma in Dairying,
September, 1933

DAIRY FARMING.

MAXIMUM MARKS, 150.

PASS MARKS FOR DIPLOMA, 90.

(Time allowed, three hours).

All Questions to be attempted.

1. What methods would you adopt to conserve the valuable manurial constituents in farmyard manure ?

2. What vegetation would you expect to find associated with :—

- (a) Good rich soil.
- (b) Poor land.
- (c) Land deficient in lime.
- (d) Damp, poorly drained land ?

3. What particular features would you regard as of special importance in selecting a farm from which to carry on a retail milk trade ? Would the same features affect your choice of a cheese-making farm ?

4. Discuss the merits as a food stuff for dairy cows of :—

- (a) Palm Kernel Cake
- (b) Ground Nut Cake
- (c) Rice Meal
- (d) Bran

and state the approximate analysis in each case.

5. How are weeds spread ? What methods would you adopt to prevent the spreading of different types of weeds on the land ?

6. (a) What breed of pig do you consider best suited for bacon production ? Give reasons for your choice.

(b) What are the chief provisions of the Pig Marketing Schemes ?

7. What gross annual return might you reasonably expect from the sale of milk and its products from a farm carrying 30 milk cows from which :—

- (a) Milk is sold retail.
- (b) Milk is sold wholesale.
- (c) Butter is made.
- (d) Cheese is made.

8. What are the advantages to be gained by the commercial dairy farmer from the adoption of milk recording ?

DAIRY HYGIENE.

MAXIMUM MARKS, 100.

PASS MARKS FOR DIPLOMA, 60.

(Time allowed, two hours).

All Questions to be attempted.

1. Detail the treatment you would give to a cow
 - (a) Prior to calving
 - (b) Immediately after calving.
 2. What is the normal period of gestation, temperature and pulse of (a) Cow, (b) Pig ?
 3. What are the chief provisions of the Milk and Dairies Act ?
 4. (a) What factors would you take into account in regard to the water supply for a dairy farm (milk selling) ?
 - (b) What quantity of water per cow would you consider adequate ?
 - (c) What roughly would be the inside measurements of an oblong tank to hold 1,000 gallons of water ?
 5. Discuss in detail the various types of material which might be used for roofing a dairy byre and their respective merits.
 6. Mention four notifiable diseases of farm stock and give full details, including symptoms, of any two of those selected.
-

PRINCIPLES OF DAIRYING.

MAXIMUM MARKS, 150.

PASS MARKS FOR DIPLOMA, 90.

(Time allowed, three hours).

All Questions to be attempted.

1. To what temperature should milk be cooled on the farm? In a hot dry summer when the water supply is limited, describe how you would use the supply to the best advantage.

2. What fundamental facts underlie the precise instructions laid down in the official Holding Method of Pasteurising milk? Since their inception what developments in pasteurising technique have taken place in Europe? Do they support or weaken our official method?

3. Discuss the problem of the production and distribution of Graded Milks, emphasizing the factors you consider of the greatest importance to success.

4. Briefly describe the various processes and methods of packing used in preparing cream for retail sale. What injustice (if any) occurs through the lack of modern regulations governing the sale of cream.

5. Compare and contrast the methods of preparing cream for churning in :—

- (a) The farmhouse.
- (b) The creamery.

To what extent do the differences in method affect the finished products.

6. What are the probable causes of the following defects in butter :—

- (a) High moisture.
- (b) Leaky texture.
- (c) Sour flavour.
- (d) Fishy flavour.

7. State the influence of ventilation, humidity and temperature on the ripening of hard pressed cheese.

8. Tabulate the essential differences between the manufacture of Cheddar and Gruyère cheese.

DAIRY FACTORY MANAGEMENT & DAIRY ENGINEERING.

MAXIMUM MARKS, 100.

PASS MARKS FOR DIPLOMA, 50.

(Time allowed, two hours).

All Questions to be attempted.

1. Discuss the influence of the following factors in the production of over-run during the freezing process of an ice cream mix :—

- (a) Fat content.
- (b) Speed of the dasher.
- (c) Temperature of the brine (or freezing agent).
- (d) Length of freezing time.

2. Briefly describe the manufacture of evaporated (unsweetened) milk. What are the chief defects which may arise in the finished product ?

3. What are the essential requirements of a gas for use in mechanical refrigeration ? Compare and contrast the characteristics of the gases in common use.

4. As the manager of a country creamery handling 5,000 gallons per day, detail the arrangements you would make for the receipt and control of your producers' milk.

5. What methods are used for the disposal of whey at cheese-making factories ? Briefly outline the economics of each method.

6. How would you treat a hard and impure water supply for dairy use ?

CHEMISTRY AND PHYSICS.

MAXIMUM MARKS, 100.

PASS MARKS FOR DIPLOMA, 60.

(Time allowed, two hours).

Answer Five Questions.

1. Distinguish between (a) elements, (b) compounds, and (c) mixtures. How would you classify (i) hydrogen, (ii) acetic acid, (iii) water, and (iv) air ? Give reasons for your statements.

2. Describe in detail the method you would adopt to analyse a sample of sour milk for (a) fat, and (b) solids-not-fat. Give a calculation to show how the results would be obtained from the determinations made in the analysis.

He received and paid into the bank :—

Dairy Produce	...	...	...	...	...	1,625	0	0
Dairy Stock	...	...	...	...	...	225	0	0
Horses	...	...	...	...	...	23	0	0
Pigs	...	...	...	...	...	90	0	0
Crops	...	...	...	...	...	275	0	0

He sold Pigs to F. Brown 23 10 0

His bankers charged for commission and interest ... 5 3 6

He sold hay for £15 to his Landlord, who agreed to remit 10% of the annual rent.

At the end of the year he owed H. Johnson £40 for a horse, his cake merchant £25 for foodstuffs and various tradesmen, £27 3s. 10d. He was owed by M. Turner £123 for dairy produce. Dairy produce consumed in the house amounted to £43 5s. 0d. F. Brown paid his account by cheque less 5% discount.

His valuations on the 29th September, 1933 were as follows :—Dairy herd £1,050 ; Pigs, £30 ; Crops, £250 ; Tenant-right, £105. His horses and implements depreciated £70.

Write up the Cash-book, Journal and Ledger. Prepare Profit and Loss Account and Balance Sheet.

What rate of interest did W. Robinson earn on his capital ?

2. Give the ruling in pencil of a Tabular Sales-book suitable for a Dairy Factory and explain how the entries are dealt with in the Ledger.

3. Prepare a cost-account for milk production (without figures) for the year ending September 29, 1932.

4. You sell F. Smith on November 22, 1933, 2 cwt. of butter at 115/- and receive a cheque in settlement, which you pay into your bank. Three days later your bankers return the cheque, marked "Refer to Drawer,"

(a) What does this indicate ?

(b) Show the necessary entries in your cash-book and ledger.

EXAMINATION FOR BUTTERMILKING CERTIFICATE
AT SOMERSET FARM INSTITUTE, CANNINGTON,
MONDAY AND TUESDAY, MARCH 27TH AND 28TH, 1933.

EXAMINER :

ALEC TODD.

Three hours are allowed for this paper.

Candidates are requested to make their answers as brief as possible. Each answer should be written on a separate sheet of paper, and the sheets should be fastened together in order in the left-hand corner. The top sheet should bear the name of the Candidate.

Each question carries the same number of marks, and Candidates gaining not less than 60 per cent. will pass.

Candidates will subsequently be examined *viva voce*.

QUESTIONS.

1. Why is milk so valuable as a food? Give its composition, and the functions of the various constituents.
2. Describe how you would proceed with the production of milk up to graded standard.
3. Under the milk recording schemes milk is sampled and tested for fat. How is this done, and what equipment is necessary?
4. What is meant by (a) Devonshire clotted cream, (b) Double thick cream, (c) Churning cream? What percentage of fat should each contain?
5. How would you proceed to produce first class butter on a farm where buttermaking is only done once or twice per week?
6. What is the object of ripening cream for butter making, and how is this best brought about?
7. What might account for a sample of butter being loose and open in texture, streaky in colour and insipid in flavour?
8. What yield of butter would you expect to get from 20 gallons of milk containing 3.8% Fat?
9. If a bottle of milk is labelled "Pasteurised" what does this imply?

EXAMINATION FOR BUTTERMILKING CERTIFICATE AT
THE FARM INSTITUTE, SPARSHOLT; ON TUESDAY,
WEDNESDAY, THURSDAY AND FRIDAY, JULY 11TH,
12TH, 13TH AND 14TH, 1933.

EXAMINER :
MISS A. SHEPPARD.

Three hours are allowed for this paper.

Candidates are requested to make their answers as brief as possible. Each answer should be written on a separate sheet of paper, and the sheets should be fastened together in order in the left-hand corner. The top sheet should bear the name of the Candidate.

Each question carries the same number of marks, and Candidates gaining not less than 60 per cent. will pass.

Candidates will subsequently be examined *viva voce*.

QUESTIONS.

1. How would you manage the milk and cream on a ten cow farm making butter twice weekly ?
2. What are the advantages of the centrifugal separation of cream from milk ? What points must be observed to ensure the successful running of a separator ?
3. What effect would the following have on the bacterial content of milk :—
 - (a) Cooling to 50°F.,
 - (b) Heating to 145°F. for 30 minutes,
 - (c) Heating to 212°F. ?
4. Give the average butter ratio of Guernsey milk. Why is this milk so good for butter-making ?
5. How is clotted cream prepared ? What is the retail price per lb. ?
6. Give the points of a good sample of butter. What treatment during manufacture ensures a good sample ?
7. Give one method of estimating the fat content of milk.
What are the Government regulations with regard to the sale of milk ?
8. What are the causes of sleepy cream ?
9. What type of butter churn and butter worker do you consider the best ? How would you prepare a new churn and worker for use ?
10. What is the approximate fat percentage of the following :—
 - (a) Double thick cream,
 - (b) Butter,
 - (c) Cream for churning,
 - (d) Butter milk,
 - (e) Separated milk,
 - (f) Skimmed milk ?

EXAMINATION FOR CHEESEMAKING CERTIFICATE AT
THE FARM INSTITUTE, SPARSHOLT; ON TUESDAY,
WEDNESDAY, THURSDAY AND FRIDAY, JULY 11TH,
12TH, 13TH AND 14TH, 1933.

EXAMINER : MISS A. SHEPPARD.

Three hours are allowed for this paper.

Candidates are requested to make their answers as brief as possible. Each answer should be written on a separate sheet of paper, and the sheets should be fastened together in order in the left-hand corner. The top sheet should bear the name of the Candidate.

Each question carries the same number of marks, and Candidates gaining not less than 60 per cent. will pass.

Candidates will subsequently be examined *viva voce*.

QUESTIONS.

1. What agents are used in the manufacture of cheese? How is rennet prepared?
2. How does a ripe Cheddar cheese differ from a ripe Wensleydale? What treatment during manufacture ensures these differences in the finished product?
3. Under what conditions would you advocate the manufacture of soft cheeses? Describe the manufacture of a Colommier cheese.
4. What do you understand by "Clean Milk Production"? How does this affect cheesemaking?
5. What would be the effect on a finished Derby cheese of the following :—
 - (1) Milk containing 2% fat,
 - (2) Milk containing 5.5% fat,
 - (3) Milk containing .16% acidity at renneting,
 - (4) Milk containing .3% acidity at renneting?
6. Describe the Caustic Soda test and its advantages in cheesemaking, Give the acidities at renneting and milling of :—
 - (1) Cheddar cheese,
 - (2) Derby cheese,
 - (3) Cheshire cheese,
 - (4) Wensleydale cheese.
7. What do you understand by the term "pasteurized" as applied to milk offered for sale? Would it be possible to make cheese of milk thus treated?
8. How would you maintain a pure culture starter in a cheesemaking dairy? What are the indications that a starter needs renewal?

9. What points would you note when buying :—

- (a) Curd knives,
- (b) Cheese vats,
- (c) Cheese moulds,
- (d) Milk churns,
- (e) Curd mills ?

10. Give reasons for the following :—

- (a) Top stirring the milk after renneting,
 - (b) Stirring the curd during scalding,
 - (c) Milling curd,
 - (d) Salting curd,
 - (e) Pressing the cheese,
 - (f) Turning the cheeses in the ripening room.
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EXAMINATION FOR BUTTERMAKING CERTIFICATE
AT THE SEALE-HAYNE AGRICULTURAL COLLEGE,
NEWTON ABBOT; ON THURSDAY AND FRIDAY, JULY
20TH AND 21ST, 1933.

EXAMINER :
ALEC TODD.

Three hours are allowed for this paper.

Candidates are requested to make their answers as brief as possible. Each answer should be written on a separate sheet of paper, and the sheets should be fastened together in order in the left-hand corner. The top sheet should bear the name of the Candidate.

Each question carries the same number of marks, and Candidates gaining not less than 60 per cent. will pass.

Candidates will subsequently be examined *viva voce*.

QUESTIONS.

1. What up-to-date methods are employed to ensure a clean and safe milk supply ?
2. What alterations are to be found in the character of milk fat, due to breed and other influences ?
3. Under what conditions would you advise the installation of a milking machine ? Describe the construction of a modern type.
4. How would you prepare cream for sale ? Give the composition of cream suitable for this purpose.
5. How does clotted cream differ from ordinary cream ? Mention some of the chief points in its successful manufacture.
6. Describe the preparation in the dairy of a fresh culture starter, and its subsequent up-keep for daily use.
7. Give the cause and remedies for :—
Sleepy cream,
Discolouration in butter,
Greasy texture in butter,
Lack of solidity in butter,
Excess of moisture in butter.
8. Tabulate the points to note in the successful management of a separator, and the advantages of the use of a separator over other methods of cream raising.
9. What economical way can separated and butter milk be used on a farm ?
10. Mention some of the up-to-date methods of cooling milk on a farm, and what is the object of so doing ?

EXAMINATION FOR BUTTERMILKING CERTIFICATE AT
THE STUDLEY COLLEGE, WARWICKSHIRE; ON
MONDAY, TUESDAY AND WEDNESDAY, JULY 24TH,
25TH AND 26TH, 1933.

EXAMINER: MISS D. V. DEARDEN.

Three hours are allowed for this paper.

Candidates are requested to make their answers as brief as possible. Each answer should be written on a separate sheet of paper, and the sheets should be fastened together in order in the left-hand corner. The top sheet should bear the name of the Candidate.

Each question carries the same number of marks, and Candidates gaining not less than 60 per cent. will pass.

Candidates will subsequently be examined *viva voce*.

QUESTIONS.

1. To what standards must milk conform when sold as Grade A. (T.T.) ?
2. Demonstrate by using Richmonds formula why the lactometer alone is unreliable as an indication of the quality of milk.
3. Under what conditions would an excessive amount of fat be lost in the buttermilk ?
4. Give a scale of points suitable for judging a buttermaking competition.
5. Metal and wood are both used for dairy utensils. Which do you prefer and why ? Which metals and woods are suitable for use in the dairy ? Give reasons for their suitability.
6. Name the chief parts of a separator. In mechanical separation what force is used and how is its influence on the separation of cream increased or decreased ?
7. What is considered the most serious defect in butter ? What steps could be taken to prevent its occurrence ?
8. What is meant by " Butter ratio "—How can it be determined practically in the dairy ?

EXAMINATION FOR CHEESEMAKING CERTIFICATE AT
THE STUDLEY COLLEGE, WARWICKSHIRE; ON
MONDAY, TUESDAY AND WEDNESDAY, JULY 24TH,
25TH AND 26TH, 1933.

EXAMINER: MISS D. V. DEARDEN.

Three hours are allowed for this paper.

Candidates are requested to make their answers as brief as possible. Each answer should be written on a separate sheet of paper, and the sheets should be fastened together in order in the left-hand corner. The top sheet should bear the name of the Candidate.

Each question carries the same number of marks, and Candidates gaining not less than 60 per cent. will pass.

Candidates will subsequently be examined *viva voce*.

QUESTIONS.

1. Indicate how different characteristics are obtained in cheese. Illustrate your answer by reference to specific varieties.
2. What is the action of rennet on milk? To what extent do rennet substitutes actually replace rennet?
3. What alterations are necessary in the manufacture of Cheddar cheese from milk containing a high percentage of solids as compared with one containing a normal amount?
4. What method of pasteurisation is best for milk intended for cheesemaking? What adjustments of the method of making cheese are needed when using pasteurised milk? What advantages are obtained by pasteurising milk intended for cheesemaking?
5. What laboratory tests could be used in the control of a cheese factory? Give the advantages of using each test you mention.
6. Describe the treatment of whey from the time it is drawn from the curd to the churning of the cream if a good quality whey butter is required.
7. In order to obtain a well finished cheese how should a large cheddar be treated from the time it is milled until it is taken to the ripening room?
8. Give concise instructions for the care of "starter."

EXAMINATION FOR BUTTERMAKING CERTIFICATE AT
THE AGRICULTURAL INSTITUTION, USK, MONMOUTH-
SHIRE ; ON MONDAY, TUESDAY AND WEDNESDAY,
AUGUST 14TH, 15TH AND 16TH, 1933

EXAMINER :
MISS V. E. CHEKE.

Three hours are allowed for this paper.

Candidates are requested to make their answers as brief as possible. Each answer should be written on a separate sheet of paper, and the sheets should be fastened together in order in the left-hand corner. The top sheet should bear the name of the Candidate.

Each question carries the same number of marks, and Candidates gaining not less than 60 per cent. will pass.

Candidates will subsequently be examined *viva voce*.

QUESTIONS.

1. If a sample of butter showed an open texture and uneven colouring, to what causes would you attribute the defects ?
2. What cleaning and sterilizing equipment would be required for a 30 cow dairy where bottled milk is sold on a retail round ?
3. How is it possible to alter the consistency of cream from a separator without altering the rate of inflow or speed of turning ? Describe the working of a separator bowl.
4. What are the effects of high T°. on the following :—
 - (a) Texture of butter,
 - (b) Keeping quality of milk,
 - (c) Consistency of cream,
 - (d) Ripening of cream,
 - (e) Starter ?
5. Describe three methods of preparing and packing cream for sale. How would you utilize the separated milk ?
6. What points do you consider representative of a first-class sample of butter ?
7. Discuss the essential factors in the production of flavour in butter. What are the most usual causes of :—
 - (a) rancid,
 - (b) tainted, flavours ?
8. Discuss the possible causes of :—
 - (a) sleepy,
 - (b) frothy, cream,
 and methods of dealing with the troubles.
9. What are the objects of ripening cream ? What would be the effect on the finished butter of churning over-acid cream ? Give the correct acidities for :—
 - (a) Cream for churning,
 - (b) Starter for cream ripening.

EXAMINATION FOR CHEESEMAKING CERTIFICATE AT
THE AGRICULTURAL INSTITUTION, USK, MONMOUTH-
SHIRE ; ON MONDAY, TUESDAY, AND WEDNESDAY,
AUGUST 14TH, 15TH AND 16TH, 1933.

EXAMINER :
MISS V. E. CHEKE.

Three hours are allowed for this paper.

Candidates are requested to make their answers as brief as possible. Each answer should be written on a separate sheet of paper, and the sheets should be fastened together in order in the left-hand corner. The top sheet should bear the name of the Candidate.

Each question carries the same number of marks, and Candidates gaining not less than 60 per cent. will pass.

Candidates will subsequently be examined *viva voce*.

QUESTIONS.

1. What are the objects of diluting rennet ? How much rennet would you use for hard-pressed cheesemaking, when the milk is from cows :—
 - (a) On winter feed,
 - (b) On spring grass ?Give reasons for the amounts suggested.
2. What are the most important agents in the ripening of any cheese ? How do you account for the long keeping quality of Cheddar ?
3. Compare the manufacture of Cheddar and Stilton cheeses. What points constitute a good type of both, and how would you judge them ? Give a suitable scale of points.
4. Why is it necessary to :—
 - (a) Scrape the coats of Stilton,
 - (b) Bandage Cheddar.
 - (c) Turn cheese during ripening,
 - (d) Brine Caerphilly.
5. What precautionary measures would you advise in :—
 - (a) General production,
 - (b) The handling of evening milk,—to ensure a suitable milk for cheesemaking ?
6. Why is it inadvisable to artificially colour tainted milk ?
What might result from adding annatto :—
 - (a) Before the starter,
 - (b) Immediately prior to the rennet ?
7. Outline the uses of starter in cheesemaking. For what reasons would you alter the amounts used ?

8. What is meant by the "acidity" of milk? How can this be tested?

Give the average acidities at renneting and at milling of Cheddar and Stilton cheeses, and state why these acidities should differ.

9. What might cause the following defects:—

- (1) "Soapy" texture in Cheddar,
- (2) Development of blue mould in Derby,
- (3) "Slipcoat" patches on Stilton?

How would you treat the latter?

10. What are the essential points of difference in Hard-pressed and Soft cheeses? Describe the manufacture of Colommier and detail the necessary apparatus for making 20 gals. daily into this cheese. What rooms would be required, and at what temperature should they be kept?
-

EXAMINATION FOR CHEESEMAKING CERTIFICATE
AT THE SEALE-HAYNE AGRICULTURAL COLLEGE,
NEWTON ABBOT; ON THURSDAY AND FRIDAY,
AUGUST 31ST AND SEPTEMBER 1ST, 1933.

EXAMINER: ALEC TODD.

Three hours are allowed for this paper.

Candidates are requested to make their answers as brief as possible. Each answer should be written on a separate sheet of paper, and the sheets should be fastened together in order in the left-hand corner. The top sheet should bear the name of the Candidate.

Each question carries the same number of marks, and Candidates gaining not less than 60 per cent. will pass.

Candidates will subsequently be examined *viva voce*.

QUESTIONS.

1. What effect would a low percentage of fat and a high bacterial count have on milk intended for cheesemaking ?
2. What difference would you make in the manufacture of a cheese if the milk were pasteurised to 150° F. and held at this temperature for half-an-hour, as compared with raw milk ?
3. What are the enzymes you expect to find in rennet, and what constituents of the milk further their action ?
4. What change takes place in the milk when it is ripened for cheesemaking, and how is this best brought about ?
5. How would you treat milk containing .25% of acidity which is intended for Cheddar cheesemaking ?
6. Why is it so important to regulate the moisture in the making of a hard-pressed cheese, and at what stages in the process is this facilitated ?
7. What are the chief factors for successful blue-veined cheesemaking ?
8. What moulds do you expect to find in a Wensleydale cheese ? Do they differ from those found in Stilton or Roquefort ?
9. Hard-pressed and blue-veined cheeses mellow or ripen when kept. How does this come about ?
10. How would you treat a hard-pressed cheese from salting until it is placed in the ripening room ?

EXAMINATION FOR BUTTERMAKING CERTIFICATE AT
THE BRITISH DAIRY INSTITUTE, READING; ON
MONDAY, TUESDAY AND WEDNESDAY, SEPTEMBER
18TH, 19TH AND 20TH, 1933.

EXAMINER :
MISS M. C. TAYLOR.

Three hours are allowed for this paper.

Candidates are requested to make their answers as brief as possible. Each answer should be written on a separate sheet of paper, and the sheets should be fastened together in order in the left-hand corner. The top sheet should bear the name of the Candidate.

Each question carries the same number of marks, and Candidates gaining not less than 60 per cent. will pass.

Candidates will subsequently be examined *viva voce*.

QUESTIONS.

1. Compare the "Alfa-laval" and "Melotte" type of Separator.
2. A sample of butter has been returned from the market as unsaleable. What precautions would prevent this recurring?
3. What effect has salt on the keeping properties of Butter?
How can you test salt to know if it is suitable for dairy use?
4. Explain the changes that take place in cream when ripened.
5. When making butter in the Winter, state suitable temperatures for :—
 - (a) Cream ripening.
 - (b) Churning,
 - (c) Break water,
 - (d) Brine.
6. Write brief notes on the following :—
 - (a) Homogenisation,
 - (b) Cream for sale,
 - (c) Potted butter.
7. What special precautions are necessary for making long keeping quality butter?
8. Compare the reliability of results obtained by testing new milk with :—
 - (a) Lactometer,
 - (b) Creamometer,
 - (c) Centrifugal tester.
9. How are the following qualities in Butter influenced :—
 - (a) Colour,
 - (b) Flavour,
 - (c) Keeping qualities?
10. Taking milk straight from the cow, what difference would you make in the treatment of it when required for :—
 - (a) Cheesemaking, (b) Milk selling, (c) Butter-making?

EXAMINATION FOR CHEESEMAKING CERTIFICATE AT
THE BRITISH DAIRY INSTITUTE, READING: ON
MONDAY, TUESDAY AND WEDNESDAY, SEPTEMBER
18TH, 19TH AND 20TH, 1933.

EXAMINER :
MISS M. C. TAYLOR.

Three hours are allowed for this paper.

Candidates are requested to make their answers as brief as possible. Each answer should be written on a separate sheet of paper, and the sheets should be fastened together in order in the left-hand corner. The top sheet should bear the name of the Candidate.

Each question carries the same number of marks, and Candidates gaining not less than 60 per cent. will pass.

Candidates will subsequently be examined *viva voce*.

QUESTIONS.

1. Make a list of conditions you consider essential for success in soft cheesemaking.
2. In Gerber testing why is it necessary the chemicals used should be of a certain strength? If the fat is not clear after taking a test what would cause this result?
3. Milk is supplied to a factory for cheesemaking. What rapid tests can you make to enable you to return unsatisfactory supplies.
4. State why you would prefer to use a "starter" in cheesemaking. What conditions would make it necessary to increase the amount of starter used above normal or decrease the amount?
5. What are the chief causes of loss of fat in cheesemaking? How does this affect the finished product?
6. Why is the size of the cut varied in making :—
 - (a) Cheshire cheese,
 - (b) Cheddar cheese,
 - (c) Derby cheese.What effect has too quick a scald in the making of above varieties?
7. Give details of press work for Cheddar cheese. How can you account for bad skins in the ripening room?
8. A Cheddar cheese when rennetted coagulates and is ready for cutting in fifteen minutes. State causes. How would you vary method of make to turn out a satisfactory cheese?
9. What are the important differences in the manufacture of Derby and Wensleydale cheese?
10. What is the average amount of fat found in :—
 - (a) Separated milk,
 - (b) Skim milk,
 - (c) Butter milk,
 - (d) Whey?

Explain the causes of abnormal loss of fat in (a) and (d).

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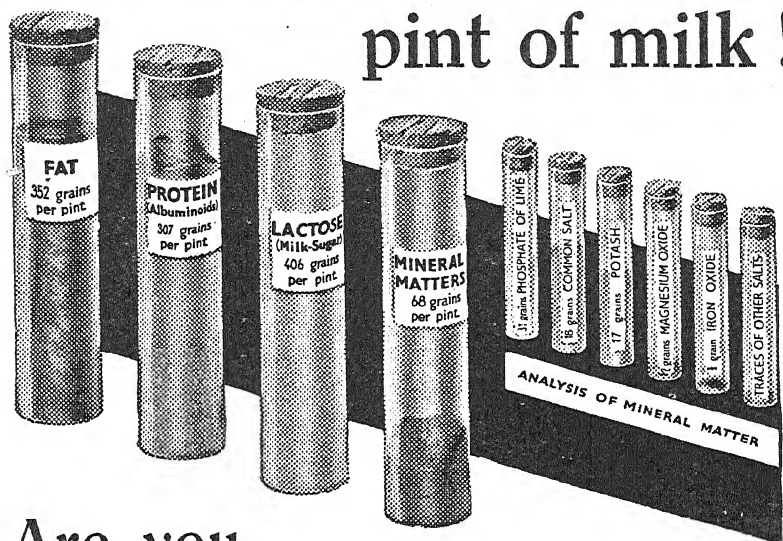
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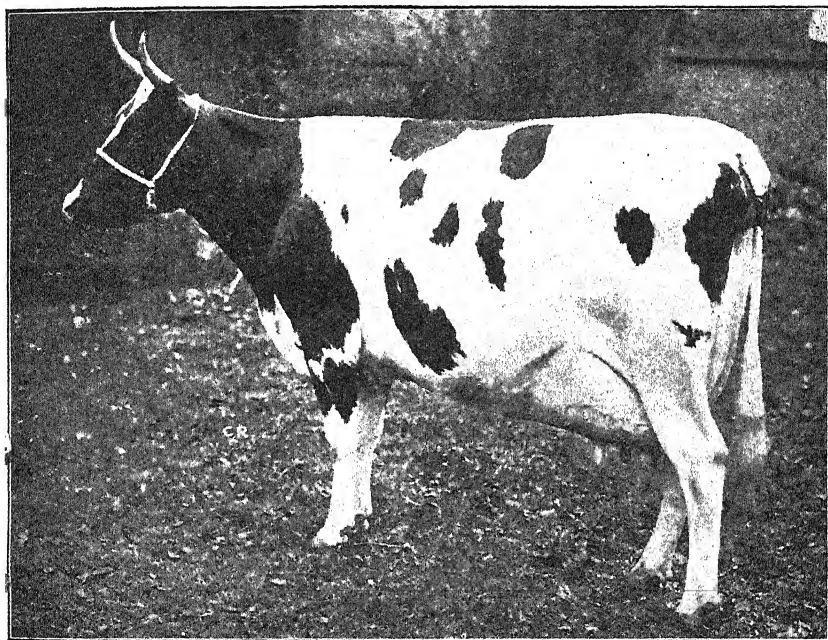


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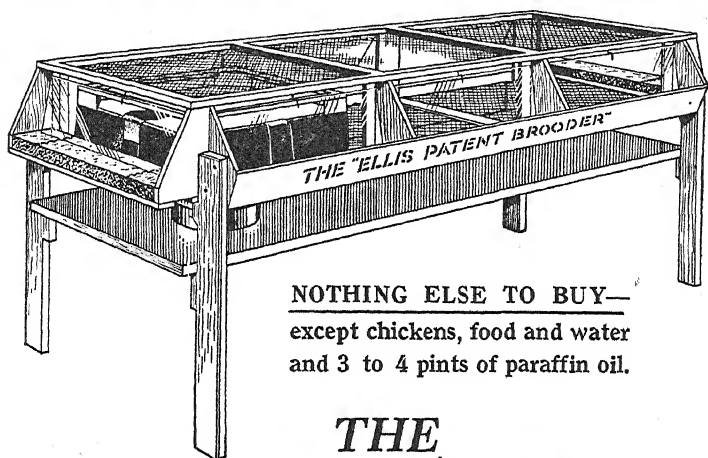
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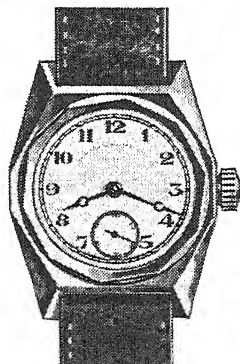
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In their actual working the best laid schemes of men are apt to press heavily upon sections of an industry and call for the co-operation of a free and independent body. Such a body is the **BRITISH DAIRY FARMERS' ASSOCIATION** which, existing solely for the betterment of dairying, is the one unfettered organization which may stimulate existing lethargy or control any unplaced zeal.

The existence of a prosperous dairying industry is vital to National well-being. Clearly, therefore, it is to the interest of all engaged in dairying to actively support the Association, that it may be welded into such a powerful unit as to secure for the dairying industry fair play and proper representation of its interests at all times. It is, therefore, hoped that each Member will work to make the Association better known, and obtain a signature to the membership form on page 424.

British Dairy Farmers' Association

PRIZE ESSAY ON A DAIRYING SUBJECT.

The Council offers a Prize of £15 and the B.D.F.A. Silver Medal for an Essay upon any practical or scientific subject relating to Dairy Farming or Dairying, conditionally upon sufficient merit being shown.

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The Essay should not exceed 5,000 words, and must be received by the undersigned on or before 1st December.

An Essay must be sent in a sealed envelope, bearing a *nom de plume*, and in another sealed small envelope, also bearing the *nom de plume*, the Author must insert his name and address.

The Prize Essay will be the property of the Association. Others will be returned to their respective Authors, but the Association reserves the right to retain Essays on subjects suitable for inclusion in the Annual Journal, which will be paid for at 10s. 6d. per Journal page.

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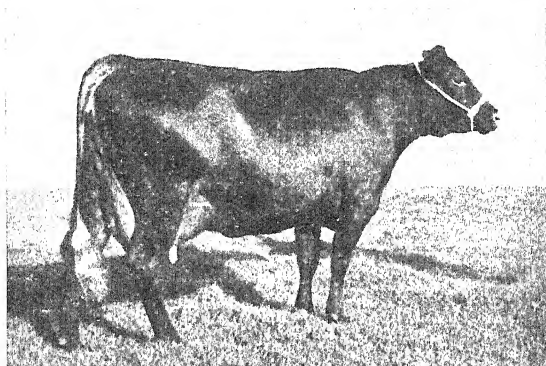
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3RD PRIZE £35	Miss E. Martin Smith, Grange Court, Portington, E. Yorks	1748 GALLONS

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1ST PRIZE £100	H. B. Green, Esq., Wighton S.O., Norfolk	1693 GALLONS
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3RD PRIZE £35	W. S. Evans, Esq., Denby Old Hall, Denby, Derby	1449 GALLONS

Class 3. Yields calculated in herds of 24 cows or less on the best six cows; herds over 24 cows on 25%.

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OF THE

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1935

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The late WILLIAM COULMAN BROWN.

MEMOIR OF

THE LATE WILLIAM COULMAN BROWN

The closing days of 1934 marked the passing of a distinguished and faithful servant of the British Dairy Farmers' Association, for on December 28th Mr. William Coulman Brown died at Ermine House, Appleby, North Lincs., in his 84th year.

Mr. Brown's family had farmed at Appleby since 1760, and in 1934 he gathered in his sixty-fourth harvest, but his interest was not merely local for in 1879 he joined the Royal Agricultural Society of England and became a member of the British Dairy Farmers' Association in 1888. Elected to the Council of the B.D.F.A. in 1891, he served on it till 1909, but though he then retired from the Council his keen interest in the Association was continually evinced for he was Steward of the Centre Dairy with its Butter-making Contests for 33 years, from 1894 to 1927, and in 1903 and 1904 was Judge of the Butter Tests.

In the Centre Dairy he was noted for his kindness, tact and urbanity, tempered the necessary firmness which he possessed to rule this important section of our Show, and many a competitor must have cherished happy recollections of his kindly expressions of praise or sympathy as the situation demanded.

In his own county Mr. Brown was not only a noted agriculturist but a leader of men. In his village he was churchwarden for 62 years, a bellringer for more than a quarter of a century, and in his younger days, with the help of his brother, he designed and built a clock for his parish church which went for more than 21 years without stopping or losing more than a minute, and which is still doing good service.

In 1880 he was the pioneer of the potato industry on the North Lincolnshire limestone soils, and was the first local farmer to resort to steam cultivation: in 1908 he visited Germany to investigate the sugar beet industry, in which he afterwards was keenly interested.

An Alderman of the Lindsey (Lincs.) County Council, he served on that body for 26 years, only retiring in 1934, being very prominent on the Highways and Rating Committees. He had been a County magistrate since 1905.

An expert on all branches of agriculture he had frequently acted as a judge for the R.A.S.E. Farm Prize Competitions and their classes for New Implements and Inventions. Amongst others who

had studied practical agriculture under him was the late Mr. S. R. Whitley, who always referred to Mr. Brown with affection and admiration.

He was a member of the Lincolnshire Beekeeper's Association and also of the Lincs. Naturalist's Union, and in his later years devoted a great deal of his time to his gardens which he so greatly loved.

At his funeral the farm waggon which bore his coffin was decorated with corn, potatoes and sugar beet, and was driven by the son and grand-son of his old groom who had been with him 45 years. Eight of his employees with a total of 241 years service on his farm acted as bearers, and along the path to the graveside were many floral tokens from the gardens of his neighbours and friends who loved him and remembered his love of flowers. Perhaps in the last two sentences we may realise his best qualities, for apart from his ability and energy, he indeed possessed a love for the country and country things, and a love and consideration for those who worked for him.

In his passing this Association has lost not merely a loyal member, but a fine type of an English gentlemen. May the grass rest lightly o'er him.



The late ROBERT LONG, J.P.

THE LATE ROBERT LONG

By the death of Mr. Robert Long, in his 77th year, on March 8th, 1935, the British Dairy Farmers' Association has lost a faithful member, and the Counties of Bedfordshire and Hertfordshire a highly respected public servant.

Mr. Long became a member of the B.D.F.A. in 1888. In 1899 he was elected a member of the Council of that body, which seat he held until 1932, when he resigned on account of ill-health.

During the period of his membership, he acted on the following Committees :—Conference, 1901-32 ; Finance, 1909-11 and 1915-32 ; Cattle Disease and Epidemic, 1921-32. He was also a Cattle Steward at the Dairy Show from 1900-1914.

His long service to the B.D.F.A. won the deep regard of all who knew him. Mr. Long was fearless in his actions and speech, and was a man who never minced his words. He held a very prominent place, not only in his own native village of Stondon, but also in the public life of Bedfordshire and to a lesser degree, that of Hertfordshire. As an Agriculturist he was, in his younger days, a well-known breeder, exhibitor and judge of cattle and horses.

He will be much missed in the hunting field, having been a life-long follower of the Hertfordshire Foxhounds. Among his many other activities he was considered a competent judge of hounds.

His memory will long be cherished by those members of the B.D.F.A. who knew him, and more especially by those members of the Council whose faithful colleague he proved himself to be for a long period.

MILK PRODUCTION COSTS AND SELLING PRICES

By JAMES WYLLIE, B.Sc., N.D.A. (Hons.) N.D.D.

South-Eastern Agricultural College, Wye.

I hope no one will be alarmed at the title of this article. It does not deal with the subject because of its great importance in economic theory so much as because it is one which comes under discussion these days, sooner or later, whenever two or three farmers are gathered together. There is scarcely a meeting of farmers at which the question of prices is raised—and there are few meetings at which it is not raised—but one speaker at least will assert that all that farmers are asking for is a price, for this or that commodity, which is based upon the cost of production, or words to that effect. And seldom will the sweet reasonableness of this “demand” be challenged—amongst farmers at least. Hop growers have recently concluded an agreement with hop users into which the cost of production has been imported; in the contracts of the pigs’ marketing board the price of bacon pigs is related to one part of the cost of production, if not to the whole; and milk producers are clamant for their contract prices to be fixed in accordance with the costs of production. In short, the relationship which it is claimed exists, or ought to exist, between production costs and selling prices is a real live subject and this must be my excuse for having the temerity to discuss it in this *Journal*.

First of all, let us be sure that we are all thinking about the same thing. There is nothing in the least pedantic in the question: Just what does the term “cost of production” mean? When a farmer asserts that the price of milk should be based upon the cost of production, does he mean the cost of production *in his particular case*? Or does he mean the “average” cost, the “representative,” the “bulk-line” or the “marginal” cost, to mention the “varieties” of cost commonly found in discussions on the subject. Has he in mind that the cost of production should include interest on the capital invested as well as remuneration of the manager of the business? Would he even go so far as to say that it should include a “normal profit,” whatever that may mean? Would he be content with a price which was so fixed as “to guarantee him against loss,” whatever *that* may mean?

Now these are serious and far-reaching questions. Just as the value of a cowman depends upon the kind of adjective which can be used accurately to describe him—efficient, highly-skilled, careless,

hopeless and so on—so the value of the price-upon-cost idea to any farmer depends upon what *kind* of cost he is able to use in his calculations and price-fixing—the average cost may be of no more use to him than the incapable cowman. It is necessary, therefore, to be clear not only as to what the term cost of production means but also as to what particular adjective is to be used to describe it.

Let us try to start at least on solid ground. It can hardly be gainsaid that in the production of any commodity four things are essential: labour, land, capital and management. These four things may be required in widely varying proportions but in all cases some land, some labour, some capital and some management in some form or another are indispensable. Putting aside economic theories, accounting conventions and political prejudices, is it too much to suggest that as a matter of plain common-sense the cost of production of any commodity must include fair and reasonable remuneration for *each* of these indispensable factors in production? Nothing is more irritating and more confusing in the literature on costs, prices and profits than to read, as we so often do, that the cost does not include x—or that the profit is arrived at before allowing for y—but after allowing for z—. Neither economic theory nor accounting practice seems to have reached even the remotest kind of agreement as to what should be included in calculations of costs and profits. Never mind for the moment about the practical difficulties in deciding upon acceptable *rates* of remuneration—absolute or relative—for land, labour, capital and management. If we can agree that, in principle, they must obtain some remuneration if they are to be kept employed we shall have taken one big step forward. This kind of cost, which includes reasonable payment for the use of capital and management as well as of land and labour, may be called the *economic* cost of production.

In the case of milk, for example, the cost of production must include, if the above definition is sound, fair and proper remuneration (1) for the use of land—whether it is owned or rented by the farmer does not matter in the least; (2) for the labour employed—which may be hired or provided by the farmer or by members of his household; (3) for the capital invested in the enterprise—no matter from what source it may come; and (4) for the management—whether hired or undertaken by the farmer himself. It is clear, of course, that if milk is sold at twelve pence per gallon, there may be acute differences of opinion as to how many of these pennies should accrue to the workers and the landowners and how many to the capitalists and the managers, and there may well be times when wages and rent absorb so many of them that none is left for the farmer in his dual capacity of capitalist and manager. But this does not affect the general principle upon which we are trying to get agreement.

Do not let us go too fast, however. There is no suggestion so far that *every* producer of milk, irrespective of the conditions (soil, climate, etc.) under which he is working, the efficiency of his capital (cows, dairy equipment, foodstuffs, etc.) and of his management—that every producer is *entitled* to a fair return on his capital and management. Farmers may agree readily enough that it is the *economic* cost which they really want ; they may not be so ready to agree about a second adjective, to agree whether, for price-fixing purposes, it is the “average,” the “bulk-line,” the “marginal” or some other kind of economic cost which should be used.

Several references have already been made to *the* cost of production as if it were the case that milk production is a homogeneous industry, an industry carried on under the same conditions throughout, from Land's End to John o' Groats and from Christmas to Midsummer, in which it is only a matter of simple accounting to determine the cost of production per gallon. Instead, it is generally recognised that there is probably no other major agricultural (or industrial) enterprise in which conditions vary so widely as they do in milk production.

For one thing, natural conditions of soil and climate influence very materially the methods and costs of feeding cows, especially in respect of the quantity and quality of the grass and hay crops ; for another, the situation of the farm in relation to the milk market affects several of the cost-items (rent, transport, etc.) ; while even in the same district some farmers may be maintaining a level supply of milk all the year round while others may be producing the bulk of the milk during the cheaper spring and summer periods. Further, milk from tuberculin-tested cows of one breed is not by any means the same thing as “ordinary” milk from another breed and even “Grade A milk” may be different from just “milk” from the same breed. All these conditions, and others which might be mentioned, are bound to affect milk production costs, both per cow and per gallon, apart altogether from differences in managerial efficiency which are of course common to every industry.

All this being so, it would be indeed surprising if milk production costs did not vary considerably from farm to farm and from district to district, as well as from month to month. It may be true that statistical evidence, in the form of properly authenticated milk production accounts, is by no means as plentiful as one would wish but such evidence is required not so much to prove that these cost-differences exist as to show the actual *size* of the differences. And for the purposes of this paper, it is sufficient to establish that there *are* material differences in production costs in different parts of the industry.

Consider the problem first of all in its simplest form. Let us assume a district from which all the milk is sold in one market as liquid milk at one price. The question is: *what should that price be?* Investigation would probably show that the production costs varied somewhat as follows:—

AVERAGE ANNUAL COST PER GALLON.	QUANTITY OF MILK PRODUCED AT THAT COST.
<i>pence</i>	<i>gals.</i>
12	50,000
13	200,000
14	400,000
15	500,000
16	300,000
17	100,000
18	25,000

Now just how would the advocates of the “price-upon-cost” idea fix the price of milk in this market so that it would be “based upon the cost of production”? The *average* price is 14.76 pence per gallon. Would *this* price be acceptable to those producers, responsible for 58 per cent of the total output, whose cost per gallon is *higher* than 14.76 pence? It is quite true that, bearing in mind that the cost includes a reasonable return for both interest on capital and management services, the producers with costs of, say, 1/4 and 1/5 per gallon might be quite prepared to carry on with a price of 14.76 pence per gallon, at the temporary sacrifice of part, or whole, of the interest on capital and management salary, in the hope that they would be able to reduce their costs by improved methods of production. It is clear, however, that if these producers refused to sell their milk at 14.76 pence per gallon there would very soon be a great shortage and the price would rise sharply. On the other hand with a higher price, say 1/5 per gallon, two things would almost inevitably happen: (a) consumption would fall off owing to the increased price that would be charged by retailers and (b) the producers with the low costs would increase their output. Hence, the market would be “flooded” with milk, prices would collapse and high-cost producers would be forced out of business.

In short, *no matter what price is fixed*, there is an almost uncontrollable tendency for production to be increased by the low-cost producers and for that of high-cost producers to fall off. And any measures which might check this tendency would be against the interests of the *most efficient* class of producers in the district. It may be suggested that, in the above case, the price should be based upon the *highest* cost and that thereupon each producer should be prohibited from increasing his output. This would indeed ensure

that all producers got "a share of the market" but nothing more need be said about it. That would be "stabilisation of production" in its worst possible form.

In America, the "bulk-line cost" idea has been introduced. This is the cost which would be acceptable, more or less, to say 75 or 80 per cent of the producers but which would *not* cover the costs of the remaining 20 to 25 per cent of high-cost producers. Experience has shown, however, that with a fixed price and a guaranteed market at that price—and of course price-fixing is utterly futile to the industry as a whole unless it is accompanied by a sure market at that price—experience has shown that under these conditions low-cost producers will soon increase their production and there will be a greater and greater difficulty in finding a market *at the fixed price*.

It is indeed proven by experience that price-fixing has brought, and is likely to bring, keener and keener competition for a market at the fixed price *unless* steps are also taken to limit the output from each producer. It would be well therefore if those who demand a fixed price based on the cost of production would seriously consider whether or not they are prepared to submit to a *fixed output* as well, because there can be nothing surer than that the fixing of prices, *without* the fixing of supplies, would create just as difficult problems as those which it is expected to solve.

It is clear, however, that this over-simplified example gives a very incomplete picture of milk production as it is actually carried on in this country. For one thing—and this is the crux of the problem—during the winter period 1933-34 about one farm in every five and during the summer period of 1934 one in every three in England and Wales was producing milk which could not be absorbed by the liquid milk market and was sold at very much lower prices, that is, there are, under existing conditions, two markets for milk, the "liquid" and the "manufacturing." Now if milk is worth only 4d. per gallon for making into cheese, butter or other milk products it is idle to say that the price of such milk to the farmer should be based upon its cost of production. For surely a principle which is fair to farmers is equally fair to manufacturers of milk products: they also may "demand" a price (for cheese, butter, condensed milk, etc.) which is based upon *their* costs of production. Indeed, it might even be said that the buyers of most of these milk products, that is, the workers, would be equally entitled to ask for a price for their labour based upon its cost of production, upon the so-called "cost of living." It is often said—and there is a good deal of truth in it—that the producer has to be contented (or discontented) with just what is left of the consumer's £1 after all the various intermediaries (retailers, wholesalers, merchants, dealers, haulage contractors and so on) have received a fair reward for their respective

services. But the only logical alternative to this would be for producers and middlemen to keep passing on their costs of production and try to compel consumers to pay these accumulated costs. It is of course possible to visualise conditions under which some super-organisation might be put in the position of saying to consumers, that is, to *all* of us : There is your food supply, that is the price you must pay for it, take it or go hungry ; but under our existing organisation it would be one thing to fix consumers' prices according to *total* production costs, and a very different thing getting them to pay these prices.

Now the important point in this connection is that practically all the milk produced in this country is *within reach* of the liquid milk market, by means of motor lorries, express milk trains, pasteurisation, sterilisation and so on, and in a "free" market, unhampered by organisation of any sort, there would be a strong tendency for liquid milk prices to be forced down to the level of manufacturing milk prices, that is, to a level at which it would be a *matter of indifference* to producers whether they sold their milk in the liquid or in the manufacturing market. It is, of course, one of the chief objects of the Milk Marketing Board to counteract this tendency by so arranging that the total amount received for all the milk sold, whether in the liquid or in the manufacturing market, shall be distributed in an equitable way amongst all producers.

So far as this manufacturing milk is concerned (about one gallon in every four) and so long as prices of cheese, butter and other milk products are dominated by the prices charged for *imported* produce, the position is perfectly simple. For there is just no way of compelling milk manufacturers to buy milk according to its cost of production *unless* they are satisfied that the selling prices of the finished article will be high enough to leave them with a reasonable profit. (This does not mean that buyers of manufacturing milk invariably pay just as much as they can afford to pay ; it does mean that they cannot be compelled to pay 10d. per gallon for milk *just because* it has cost 10d. to produce). It is indeed true to say that the price which will be paid for manufacturing milk in this country depends, partly, upon its cost of production, not in this country but in those countries from which the milk products—butter, cheese, tinned milks, etc.—are imported. In so far as the cost of production does influence the price of manufacturing milk it is the cost of production in Denmark and New Zealand, in Canada and Lithuania and in other over-seas countries, rather than the cost of production in this country which really matters most. The only way in which producers of manufacturing milk can even hope to get a price which will cover their costs of production under existing conditions is to use part of the proceeds of liquid milk sales to supplement what may be

called the "world price" of manufacturing milk, and this, of course, is just the method which the Milk Marketing Board has adopted.

But there is still another complication in the case of milk production. In factory production, the cost per unit is not as a rule affected merely by the month in which production takes place whereas in milk production, even on the same farm, the conditions under which it is carried on in June are widely different from those in December. This, of course, is reflected in the differential prices for the summer and winter periods which have been common to milk contracts in England and Wales for many years. These differential prices do attempt, however crudely, to relate *monthly* production costs to *monthly* selling prices; but it should be clearly understood that their chief object is to ensure a sufficient supply of liquid milk during the winter months, especially November to January. And it is quite possible that as the industry develops under its present organisation the need for this stimulus to winter milk production may disappear, that is, sufficient liquid milk may be obtained from an expanding industry without a higher price in the "winter" than in the "summer" period. And for this reason.

The milk producer is mainly concerned with his total *annual* costs in relation to his total *annual* receipts for milk; he realises that he cannot as a rule "shut down" in winter and re-open in April or May, and hence he will be quite prepared to produce some winter milk at a loss *provided* his total *annual* milk cheques are sufficient to give him the desired returns for capital, management and net profit. This, indeed, was a very common attitude amongst milk producers in pre-war days, when they maintained, rightly or wrongly, that all their profits came from the "summer" milk.

Consideration must now be given to one of the most difficult problems of all in seeking to apply the price-upon-cost idea. It is widely believed, although as already indicated the accounting evidence is very scanty, that the general level of production costs is higher in some districts than in others and that this is not entirely, or even to any appreciable extent, due to differences in managerial capacity in milk production. It is due partly to differences in soil and climatic conditions; for example, the conditions for milk production in the West Riding of Yorkshire are believed to be exceptionally unsuitable for milk production. It is these high-cost producers who are most insistent that the price of milk should be based upon the cost of production. But the relatively high costs in some districts are also due to the comparatively high *winter* milk production, to the maintenance of what are called "level dairies." Now it is important to notice that these high-cost districts are generally more or less "suburbs" of great consuming centres in which

milk production was developed at a time when methods of transport were much less efficient than they are now, when pasteurisation and sterilisation and refrigeration were unknown.

Assuming, as we must do, that there is bound to be some relation between the price which the producer receives and that which the consumer has to pay it is hard to see why certain communities of consumers should be deprived of the advantages of improved methods of marketing in order to maintain production where conditions are comparatively unfavourable. In a "free" market, *the forces of progress are relentless in their effects upon high-cost producers*, no matter how great the efficiency of their management may be,* and even in a "controlled" market low-cost producers will not readily agree to the stabilisation of production in high-cost areas, however that might be brought about. Further, those who believe that the only thing which stands between high-cost producers and prices in accordance with their high costs is the lack of sufficient evidence that their costs *are* really high, should realise that they are using an argument which may react in two ways—both for and against them. Because it would be hard to convince a disinterested person that it would be sound business to offer differential prices for high-cost milk at a time when millions of gallons were being sold for manufacturing at 6d. per gallon or less.

Now there is no use shutting our eyes to the hard facts—and these are hard facts, especially to milk producers who belong to the high-cost areas. It may be that I have laboured the case too much, it may be that these high-cost areas exist only in my imagination. If so, then all the better, but few who know the milk production industry throughout this country will be likely to deny that the problem of the high-cost areas is a very serious problem indeed.

Finally, it is well known throughout all industry that the level of production costs depends not only upon the costs of raw materials, of labour, of maintaining the production unit and so on, not only upon the efficiency of the organisation and management, but also upon the level at which the *output* can be maintained. Hence in times of depression the factory manager often finds his hands shackled with the chain of poor trade—falling prices—reduced output—and *rising costs*, while a good market goes along with increased output and reduced costs. And this principle operates very forcibly in milk production. In this way.

Take the case of the milk producer who has thirty cows from which the yearly output is 18,000 gallons. He increases the number of cows to thirty-three and the average yield per cow to 700 gallons

*It is a truism to say that a cost of 1/- per gallon under a given set of conditions may represent a much higher degree of managerial efficiency than one of only 9d. per gallon under another set of conditions.

thus raising the yearly output by 5,100 gallons or 28 per cent. Suppose the production cost was 1/- per gallon for the lower output, it is quite fair to assume that the average cost per gallon of the higher output would not be more than 11d. per gallon, because the total cost of labour and of the "overheads" would be just the same, or nearly so, for the higher as for the lower output. [In practice, the reduction in the cost per gallon might be more than one penny per gallon because there might also be an improvement in the management but at the moment we are concerned only with the effect of the higher output.] This, however, is only one way of putting the case. Another way—perhaps more significant—is to say that an extra 5,100 gallons had been obtained at a cost of *only* 7½d. per gallon.

Now consider the probable *net* results. Suppose the output of 18,000 gallons was sold at 1½ per gallon, thus leaving a profit of £150. With an increased output of 28 per cent a lower price would follow, sooner or later. Suppose the new price was 1/0½, at which price the profit would be reduced to £144 7s. 6d., that is, the producer would get £5 12s. 6d. *less* for all the trouble involved in producing an extra 5,100 gallons of milk. But suppose some arrangement could be made by which 18,000 gallons of the increased output could be sold at the old price of 1½ per gallon and the balance (5,100 gallons) sold at 8d. per gallon. In this case, the total profit would be £161 5s. 0d. Of course, it will be said that this means the disposal of 5,100 gallons at a loss of 3d. per gallon, at less than the cost price. But it would be far more businesslike to say that 18,000 gallons have been sold at a profit of 2d. per gallon (1½ less 1/-) and 5,100 gallons at a profit of ½d. per gallon (8d. less 7½d.).

It may also be said that this is mere "juggling with figures"; on the contrary, it is a simple illustration of one of the best-known principles of factory production.

The above calculations may be clarified by the following table:—

	OUTPUT.	COST PER	PRICE PER	TOTAL PROFIT
	<i>gals.</i>	<i>GALLON</i>	<i>GALLON</i>	<i>£</i>
		<i>pence</i>	<i>pence</i>	
(1)	18,000	12	14	150
(2)	23,100	11	12½	144
(3a)	{ 18,000	12	14	161
	{ 5,100	7½	8	
(3b)	{ 18,000	11	14	161
	{ 5,100	11	8	

In the event of increased production, coupled with no *equivalent* increase in liquid milk consumption, the point of view taken in calculation (3a) is of fundamental importance. It is a point of

view well worthy of fuller discussion but falls rather wide of the scope of this article. Perhaps enough has been said to show that supporters of the price-upon-cost idea should consider whether or not they are prepared to accept *two* prices, a "liquid" price and a "manufacturing" price, based upon two different costs even in the same herd.

It is perhaps time now to turn to another difficulty of rather a different kind in the *application* of the price-upon-cost idea to the actual business of price-fixing. However sound the idea may be in principle—and I have tried to show that the principle is at least open to criticism—it should be quite clear that it is utterly impracticable unless those responsible for fixing prices are supplied, *year by year* and *district by district*, with a *large number* of *properly authenticated* and *thoroughly representative* milk production accounts. And it can hardly be said, so far, that milk producers have shown any marked enthusiasm towards the preparation of such accounts. [I am tempted to say a lot more on this point but perhaps I had better not !]

It should also be clear that if there is to be any question of fixing different prices for different districts, then it is imperative that the milk production accounts should be prepared upon a uniform basis. Only those who have had experience of this kind of work—and the writer has had as much as most people—can realise just what this means, because it would be quite an easy thing for two investigators working with the same farm in the same year to show a difference of as much as *twopence* per gallon in the milk costs. Hence, it is no use individual milk producers putting forward their individual costs because they would be written in a dozen different "languages," not one of which might be intelligible to the price-fixing authority !

Unfortunately, there is a danger of introducing a kind of spurious uniformity into a costing scheme for milk production, a kind of uniformity which might pass muster in some circles but which would make a poor show under cross-examination. For example, we are all familiar with the differences of opinion as to whether home-grown foodstuffs, such as hay, roots and corn, should be charged against the cows at cost price, at market value or at comparative feeding value. Now we do not solve the problem merely by deciding that, in all cases, cost-price should be used, *unless* we also go a long step further and decide how the cost-price is to be calculated. Nor is the case any simpler if we decide upon market value. If a farmer buys a few tons of hay in a year of scarcity at £4 per ton, is that the market value of all the homegrown hay consumed by the cows ? If he sells a few tons at 30/- per ton in a year of plenty must he charge all the hay at this price ? It is certain that these questions would provoke quite acute differences of opinion, not only amongst farmers, but also amongst cost accountants.

There is, in fact, a tendency to lay far too much stress upon *uniformity* in cost-calculations and not nearly enough upon *accuracy and fairness*. This is probably due to a confusion of objectives. In the past, most of this kind of work has been done with a view to finding means by which managerial efficiency can be measured and improved, and from this point of view the *uniform* use of a method of calculation, which some people may think entirely wrong, may nevertheless give results which can be quite validly compared. In other words, from this point of view the prime essential is that the cost data should be *comparable*.

But if the objective is to obtain costs for price-fixing purposes the position is entirely different. It would no longer be sufficient merely to show that the costs were comparable: it would be equally important, if not more so, to show that they were calculated on a perfectly fair and reasonable basis. An example may best serve to show the difference. The majority of dairy farms have two classes of dairy stock: the milking herd of cows and the young stock of various ages—very aptly called “followers” in some districts. In order to test the efficiency with which the herd is being run it is advisable to keep separate records for the cows and for their “followers” although the two accounts should be finally amalgamated in order to show the cost of production of milk, both per cow and per gallon. Hence, any “profit” or “loss” which may appear in the accounts for the young dairy stock will be automatically absorbed by the milk production account.

Now in trying to arrive at milk production costs for price-fixing purposes, it may be decided, in the interests of *uniformity and of simplicity*, to confine attention to the milking herd only. This means that home-reared calving heifers must be transferred into the milking herd either at (estimated) market price or at some arbitrary figure which may be more (or less) than the cost of rearing them. The writer at least is strongly of the opinion that in the case of regular “breeding” or “self-supporting” dairy herds *the only rational basis upon which milk costs can be calculated is the whole dairy stock, both cows and their “followers.”**

However, my personal view does not matter very much. What does matter a great deal is that on this point, as well as on many others which arise in cost-calculations, the opinions of practical farmers are very sharply divided. It is therefore difficult to see

*Cf. *Farming Costs* by C. S. Orwin, p. 94. “Where milk production is the object of the management, both the raising of the young stock and the fattening off of the old cows are *essential parts* of the whole process.” (Italics are the present writer’s).

In herds in which the cast cows are replaced by *purchased* down-calving or calved heifers and cows the whole cost of maintaining the herd will be included as a matter of course and unless *home-reared* calving heifers are included at actual cost price the calculation of the milk production costs will be on one basis for “flying” herds and on another for “self-supporting” herds.

how it would be possible to obtain general approval for *any* method of calculating the production cost of a gallon of milk. Nor is it a case of "leaving it to the experts," because economists, accountants and others of that ilk differ just as much as farmers about how milk production costs should be calculated. It is necessary to be quite frank on this aspect of the problem, otherwise producers may wake up, when it is too late, to find that they have committed themselves to fixing prices upon a cost of production basis which does not truly represent the cost of production at all.

There is a tendency to think, and to act, as if the construction of reliable milk production accounts for price-fixing purposes consists merely of drawing up a "scheme" with appropriate "schedules," and then setting the calculating machines in operation. Only those who have tried to draw up such a scheme realise how impossible it is to lay down precise guidance on all points and whenever what is called the "discretion" of the investigator comes in at the door "uniformity of method" is apt to fly out of the window!

But it must again be emphasised that where the cost-calculations are made merely to assist the individual farmer towards more economical production, this question of the *method* of calculation is of much less importance. In fact, several different methods may be used even on the same farm, according to the particular point that is under investigation. It is impossible to discuss this function of cost-finding in this article but there is nothing in the least contradictory in saying that although the costing of milk production for *price-fixing purposes* is an exceedingly dangerous weapon, even in the hands of "experts," it is a perfectly safe and extremely useful weapon, even in the hands of farmers, in the struggle towards *more economical production*.

One important observation must be made by way of conclusion. I have tried to show, in as simple terms as possible (*a*) that the principle of fixing prices upon the basis of production costs is at least of very doubtful validity—it is unnecessary to put it higher than that although many people would do so—and (*b*) that even if the principle were entirely sound the practical difficulties are so great as to be well-nigh insuperable.

Must we conclude therefore that there is, in fact, no relation at all between production costs and selling prices? Very far from it. Broadly speaking the position is that, in a short period, prices depend mainly upon demand, otherwise *purchasing power*, but over a long period production costs very materially affect selling prices, *through supply*; that is, unless the selling price for any commodity is high enough production must fall off, sooner or later, and this contraction in supply will tend to raise the selling price. In other

words, the selling price acts as a sort of "governor" which keeps supply and demand in harmony with one another, but only over comparatively long periods of time. We *might* of course ration consumers, that is, we might "fix" the demand but failing this—and certainly the rationing of consumers is not yet part of our marketing schemes—failing this the fixing of the price (the "governor" of the marketing machine) would be followed by quite unexpected results, *unless* the supply was also "fixed." The fixing of prices, *by itself*, would not prevent production costs from affecting these prices because the pressure of low-cost producers, in the shape of increased supplies, would inevitably tend to force down the fixed prices, which is exactly what happens at the present time.

Unfortunately, owing to the widely varying conditions under which milk production is carried on, the fixing of prices might result in a complete *re-distribution* of the milk supplies, that is, a price which was considered by producers in one district to be too low might lead to a *reduction* in the output in that district but *not* to a gradual rise in the price because there might be a simultaneous *increase* in the output in other districts in which the fixed price was considered to be quite satisfactory. It is this clashing of the interests of producers in different districts which constitutes one of the most difficult problems in the re-organisation of the milk-production industry. If—as is generally believed—there are districts in which production costs are comparatively high then either (a) these districts must obtain comparatively high selling prices or (b) they must, as far as may be possible, alter their methods so that the costs may be brought down to the "normal" level or (c) milk producers in these districts must be gradually forced out of business. There does not appear to be any other alternative.

THE CHOICE OF PHOSPHATES FOR GRASSLAND

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Manuring is not the whole of grassland improvement and maintenance, but when certain fundamental matters such as the provision of proper drainage and adequate stocking have been attended to, it is not too much to claim that the success of pastures depends almost entirely on proper manuring.

Grass, like any other crop, requires all of the common plant foods in proper supply, in order to produce satisfactory yields. It needs nitrogen, phosphates, potash, and lime. It requires them moreover in a condition of availability to the plant, and in such supply that the soil is maintained and not exhausted by the sequence of crops that it must carry when in turf. One might think, therefore, that the manurial treatment of grassland must consist of a series of "complete" fertiliser dressings of the kind which is commonly given to the potato crop. But conditions calling for this type of treatment are quite exceptional, and in practice much simpler systems are satisfactory. It is worth while to call to mind the reasons for this, and at the outset we must make a clear distinction between meadow and pasture conditions; between the years when the grass is cut and the seasons when it is laid up for hay.

Let us first consider the grazing process. The livestock consume a herbage relatively rich in nitrogen (or protein), in carbohydrate (sugars and digestible fibre), and in ash constituents (phosphorus, calcium, and potassium compounds). They need for their energy supply the carbohydrate and fibre, for growth and body repair the protein, and for bone formation and milk production the mineral matter. All classes of stock require the carbohydrate part of the diet in quantity, and since carbohydrate and fibre contain none of the manurial constituents, its fate does not concern us at this stage. The demand for protein and mineral varies with the class of stock. Young growing stock, in-calf cows, and milking stock retain more nitrogen and ash constituents in their live weight increase than do mature fattening animals; for the former are laying up flesh and bone or producing milk, while the latter are mainly laying on fat, which, like the carbohydrates, contains nothing of manurial value. Anything not required by the grazing animal is returned to the land in the dung (undigested nitrogen and excess phosphorus), and in the urine (excess nitrogen and potash). The effect of all this is that a great deal of the nitrogen, phosphate, and potash

contained in the original herbage finds its way back to the land when mature stock are grazing, and a moderate amount of nitrogen and phosphate, and a great deal of potash finds its way back even if young or productive stock are being grazed.

Another significant fact comes in here. Pasture grass is a mixed herbage, containing true grasses and clovers. The leguminous plants, as is well known, have the property of being self-sufficient so far as nitrogen is concerned. Living in partnership with the nodule bacteria in their roots, plants of this family are able to utilize the atmospheric nitrogen which is quite useless to other crops. In this way, a pasture well provided with clovers is largely independent of outside supplies of nitrogen. The young clovers probably share their nitrogen with the grasses growing amongst them, and certainly hand on after their death the nitrogen they have stored up in their roots. The fact that animals may retain considerable amounts of nitrogen when in production is therefore no very serious matter in view of this automatic source of replenishment.

Furthermore the typical soil under grass is on the heavy side, or at any rate has enough clay in its composition to be classed as a loam. Clay means potash, so that little anxiety need be felt on account of exhaustion of this constituent, particularly since the need of most livestock for potash is quite small, though dairy cows need more. A bullock making $1\frac{1}{2}$ cwt. live weight increase only needs to withdraw $\frac{1}{2}$ lb. of potash from circulation, and a cow giving 550 gall. of milk only about 11 lb.

The lime supply is not quite in such a happy position. Fortunately, a good mixed herbage can be maintained on soils that are definitely on the acid side; and only those grassland soils that are very acid show a clear visible response to liming treatment. Nevertheless, there is no doubt that livestock, and particularly young stock and deep milking cows appreciate the herbage grown on land containing an adequate supply of available lime. It frequently happens that it is desirable to lime for the quality of the herbage, even when the quantity is satisfactory. This does not apply, however, to those numerous soils either on the chalk or limestone formation, or associated with them, that are already well found in this respect.

When we come to the phosphate question the case is different. In the first place, a large number of our soils are naturally poor in this constituent. Many of them were impoverished in arable cultivation before they were put down to grass, and since then, have been mown and grazed for years without restitution. Every 1,000 lb. of bullock produced deprives the land of about 18 lb. of phosphoric acid, or about 40 lb. of phosphate of lime; every 1,000 gals. of milk contains 23 lb. of phosphoric acid, or 50 lb. of

phosphate of lime. There is no natural restitution of phosphate as there is of nitrogen, so that it is not surprising that the first need of pasture land is the need for phosphate, and the second need for much of it is the need for lime. Fortunately, as we shall see later, in supplying the one we almost invariably supply the other, sometimes in quite appreciable quantities.

Under meadow conditions the case is different. A hay crop taken off removes the whole of the nitrogen, phosphate, potash and lime that the grass contained, and there is no direct restitution as through the grazing animal. Any recovery of these nutrients is by the devious and rather uncertain route of the dung heap, and quite frequently the manure does not return to the field from which the hay was drawn. We have here a case in which the phosphate-lime solution may not completely succeed. Sometimes, nitrogen may come in to give bulk, particularly when clovers have been repressed by successive mowings, and on light soils the drain of potash may be such that a direct addition of potash salts may be required. In farmyard manure we have a fertiliser particularly noted to meet these circumstances, for it contains both nitrogen and potash in an available form.

We must now consider the various sources of phosphate that are offered to farmers, and the basis on which a choice can be made between them. The following are available :—

Superphosphate : 14 or 16 per cent. phosphoric acid (30 or 35 per cent. phosphate of lime) all the phosphate which is guaranteed is water-soluble. This fertiliser is the standard source of phosphoric acid for inclusion in mixtures for use on arable land. On grassland in this country, its position is not so pre-eminent, in fact, it takes second place on pasture land to the various basic phosphates, mentioned below. In New Zealand, Australia, and South Africa superphosphate is widely used for grassland improvement, and is by far the most important manure for this purpose. Owing to its phosphoric acid being water-soluble, superphosphate is in a class by itself. Its high solubility is associated with rapidity of action as will be brought out later.

Basic Slag.—The story of this material is interesting. A by-product of steel manufacture, it was at first regarded as useless, till experiments in 1884 and subsequent years proved its fertilising value. The well-known manuring for mutton experiments commenced in 1896 on the poor boulder clay soil of Cockle Park, Northumberland, brought basic slag into great prominence. The results were repeated at many other centres in England, and as the outcome of much experience we find that basic slag was regarded by most pre-war farmers as the manure above all others for pasture improvement. Now this reputation was largely established on

what is called Bessemer slag, based on a steel-making process that has since been entirely superseded by rival methods, although we now understand that Bessemer plants will shortly be opened again in Corby, Leicestershire, and probably elsewhere. Bessemer basic slag contained up to 40 per cent. phosphate of lime, a distinctly higher grade than the present-day basic slags, and of the phosphoric acid present, 80 per cent. or more was soluble in a 2 per cent. solution of citric acid.

The early years of the Great War saw a progressive replacement of the Bessemer steel making process by the so called open hearth process. The resulting basic slags differed from the pre-war slags in several material respects. They were rather lower in phosphorus content, ranging from 9-17 per cent. phosphoric acid, 20-37 per cent. phosphate of lime, and what was more important, a certain proportion of these slags, instead of showing a citric solubility of 80 per cent. or more, gave figures of 40 per cent. or less. This change was associated with a technical modification in steel manufacture that was practised in certain works, but not in all. The position gradually became fairly stable with (1) No Bessemer slag obtainable, the imports of slag of this type from the Continent having gradually dwindled down to nothing. (2) British open hearth basic slags slightly lower in grade than the classical pre-war slags, but of much the same citric solubility. (3) British open hearth slags of low citric solubility.

A word about the citric acid test is necessary here. The test was originally devised to reveal the presence of rock phosphate as an adulterant in Bessemer basic slag, but was later applied to the evaluation of different types of basic slag, the presumption being that the more soluble a slag was, the better it would behave in the field. The test was never compulsory and when the large output of low soluble slags occurred during the war, and the supply of high soluble types was quite inadequate, the citric test was largely abandoned.

In the period following the War, a Permanent Committee was appointed by the Ministry of Agriculture, to study the basic slag position, and as a result of field and laboratory trials it became quite clear that there was a definite difference in performance between the two types of post-war slag mentioned above. For lack of a better method these slags were specified by the old citric test and divided into (1) Those having a citric solubility of 80 per cent. or over, (2) Those having a citric solubility of 40 per cent. or less.

The present position is that the producers of basic slags, while compelled to state the percentage of total phosphoric acid and fineness of grinding in terms of a standard sieve, need not state the citric solubility of the slags at all. Actually, a considerable proportion of home produced slag is guaranteed 80% or more soluble

in citric acid, and the old test is restored to this extent, that if a maker gives a guarantee of solubility it must be according to this test. If a slag carries no statement of citric solubility it may be high-soluble but unstated, but it is more likely to be of a degree of solubility less than 80%. Purchasers can usually obtain the kind of slag they require by definitely asking for it on giving the order.

The low-soluble basic slags are mostly produced in the Tees-side works, and are therefore more common in the adjacent counties of the N. of England than further afield. They are also sold at cheaper prices per unit of phosphorus than the more soluble types.

Ground Rock Phosphate.—Sometimes called mineral phosphate, this material is phosphatic rock in a finely powdered condition. For many years it was imported in large quantities solely to be made into superphosphate, but when the supplies of basic slag become modified during the war attention turned to ground rock phosphate as an alternative source of basic phosphate for grassland improvement. Most of the material used in England comes from N. Africa, and the commonest type is shipped from the port of Gafsa, and bears this name. Egyptian phosphate is also extensively used. Gasfa phosphate contains about $27\frac{1}{2}$ per cent. of phosphoric acid or 60 per cent. phosphate of lime, Egyptian phosphate is slightly richer. The fineness of grinding is most important. Some samples have the same degree of fineness as basic slag, *i.e.*, 80 per cent. of the material passing the 100 mesh standard sieve; other samples are such that 80% will pass the 120 mesh sieve, while consignments ground so that 90% passes through the 120 sieve can readily be obtained. With a relatively insoluble substance the finer the degree of grinding the more likely will it pass into solution.

Bone manures.—These are the earliest phosphatic manures used in farming, but the supply soon failed to keep pace with the demand. Apart from being an excellent source of phosphate to the plant, their effectiveness resides to some extent in the nitrogen which accompanies the phosphate. Thus raw bones have about 5 per cent. of nitrogen and 22 per cent. of phosphoric acid or 48 per cent. phosphate of lime, so that the amount of nitrogen is about the same as in a good mixed fertiliser. If 5 cwt. of the bones are used per acre, the nitrogen equivalent of about $1\frac{1}{4}$ cwt. sulphate of ammonia is applied. Hence such a manure can scarcely be regarded as purely phosphatic. Steamed bone flour with about $\frac{3}{4}$ of one per cent. of nitrogen and $27\frac{1}{2}$ per cent. of phosphoric acid (60 per cent. phosphate of lime) is in quite a different category. The amount of nitrogen is negligible and the calcium phosphate is exceedingly finely divided and readily attacked by the soil water. Moreover, the price of the phosphate is relatively low, and we have here a source of phosphate that is suitable for use on grassland under certain conditions.

At first sight, it might appear that the choice between these various phosphates would be purely a matter of price. According to the well-known "unit value" system the following calculation is made for each alternative manure:—Cost per ton on the farm ÷ percentage phosphoric acid. The answer in shillings per unit (22.4 lb.) of phosphoric acid gives a measure of the relative merits of the various manures as providers of phosphate on the farm; but it gives no indication of their relative merits as providers of phosphate to the plant. The unit values only give us a useful guide when they are used to compare alternative sources of phosphate that are agriculturally very similar, *e.g.*, comparing 9% basic slag (high soluble) with 17% basic slag (high soluble); comparing superphosphate with dissolved bones (after allowing for their nitrogen) and so forth. The unit values will not therefore solve the general problem of the choice of phosphates because their agricultural values will vary with conditions. Actually, the order of unit values is usually superphosphate and steamed bone flour about equal, high soluble slag a little cheaper, low soluble slag cheaper still, and ground rock phosphate lowest of all.

The most satisfactory measure of the effectiveness of phosphatic fertilisers is the proportion of added phosphate taken up by the plant. Otherwise, the percentage recovery of phosphate in the hay or in the grazing following phosphatic treatment. If 100 lb. of phosphoric acid per acre are added in the form of basic slag and in four hay crops taken without further manure there is found 18 lb. of phosphoric acid in excess of that present in the unmanured hay, then the recovery of phosphate in this trial would be 18 per cent. over four seasons. It is a characteristic of manuring in general, and of phosphatic manuring in particular, that recoveries are seldom high. To get back in the herbage $\frac{1}{3}$ of the added manure would be very good indeed. Nevertheless, the figures thus obtained give an excellent view of the relative ease with which the grass can secure the phosphate when offered in different forms.

An extensive series of trials on this point recently conducted from Rothamsted and comprising four different sources of phosphate may be described here, since the figures throw into high relief some striking differences between phosphatic fertilisers when used on grassland.

The phosphates tested were as follows:—

- (1) None.
- (2) Superphosphate 16% phosphoric acid (35% water soluble phosphate).
- (3) Basic slag 14% phosphoric acid (30% total phosphate). High soluble type, 96% of the total phosphoric acid soluble by the citric acid test.

- (4) Basic Slag 14% phosphoric acid (30% total phosphate). Low soluble type, 23% of the total phosphoric acid being citric soluble.
- (5) Gafsa phosphate, 26% phosphoric acid (57% phosphate) finely ground so that 90% of the powder passes the 120 mesh sieve.

All phosphates were applied at rates supplying 112 lb. phosphoric acid per acre. The weights of manures therefore were different, but the weight of actual phosphate was the same in each case. This arrangement compensates for differences in grade, and throws the whole experiment on to differences in quality of the various sources of phosphate. The manures were applied in January and February 1930, to a series of hay plots in various parts of the country, and hay was cut and weighed in the four seasons 1930-33, no further phosphate being given. The hay was not only weighed, but it was carefully sampled, and the samples were analysed in the laboratory for protein and phosphorus. These experiments were competent to throw light on the question of the utilisation of phosphorus in the hay, but they could give no guide as to what would happen in the rather more widespread conditions of grazing. Accordingly, the same design was repeated except that the herbage was realised in a series of cuts made with a lawn mower whenever it reached the grazing stage. Samples were taken from every cut as before.

The yield of hay in these experiments confirmed what numerous other experimenters had found, namely that when the yield of the unmanured land was reasonably good (say 20-25 cwt. per acre) the increase in bulk produced by phosphate in any form was quite small. Had the experiments stopped there, they would have been inconclusive in many cases, but analysis showed that the improvement in quality had taken place even when no marked increase in yield had been produced. There was more protein and phosphorus per acre on the phosphate treated plots. Indeed, superficial observation showed that there was more clover, and the clover is largely responsible for the better analysis of the hay.

When yields were on the low side in the absence of phosphate, the response to manures showed strongly in the yield as well as in the quality. These points may be illustrated by figures from three of the centres :—

- (1) Cockle Park, Northumberland. Very poor land. Phosphate doubles the crop.
- (2) Northallerton, Yorks. Fair quality land, highly responsive to phosphate.
- (3) Badminton, Glos. Good land. Little yield response to phosphate.

HAY, CWT. PER ACRE (DRY MATTER).
 MEAN OF 4 SEASONS (3 FOR NORTHALLERTON).

Centre.	No Phosphate.	Super.	High Sol. Slag.	Low Sol. Slag.	Mineral.
Cockle Park	6.2	11.2	10.6	8.3	12.0
Northallerton	17.7	25.2	24.9	21.3	24.1
Badminton	32.4	34.6	33.5	32.0	31.9

It appears, therefore, that it is only on land originally poor or particularly short of phosphate that a big increase in yield may be expected from phosphatic fertilisers. With quality, however, the case is different. Examination of the results shows that owing to the change in quality the gain in protein and in phosphoric acid per acre is always proportionally greater than the gain in yield.

PERCENTAGE INCREASE.

		<i>In Yield</i> <i>per acre.</i>	<i>In Protein</i> <i>per acre.</i>	<i>In Phos- phoric acid</i> <i>per acre.</i>
Cockle Park	1933, 4th Season	101	108	150
Badminton	1933, 4th Season	11.5	11.7	25

On the poor soil the proportional increase in yield is large, but the increase in protein and particularly in phosphate in the herbage is still greater. Under the conditions of high fertility at Badminton, although the yield only increases by 11.5 per cent. the phosphate content of the herbage is increased by 25 per cent.

When all the experiments are taken together they fall into two distinct series according to the lime content of the soils. If we separate the results on the calcareous soils from those on the lime-deficient or acid soils we get the following tables, showing the recovery of added phosphoric acid in the crop, *i.e.*, the measure of the relative effectiveness of the various manures on the soil types in question.

RECOVERY (IN 4 YEARS) OF ADDED PHOSPHORIC ACID—PER CENT.

	Mean of 4 Neutral Soils.	Mean of 5 Very Acid Soils.
Superphosphate	23	19
High soluble Slag	22	17
Low soluble Slag	5	6
Gafsa Phosphate	6	17

It is clear from these figures that whereas superphosphate and high-soluble slag are about equally available to the plant on acid or on alkaline soils, and low-soluble basic slag although well behind the others is also much the same on either class of soil, the rock phosphate behaves quite differently. On neutral or alkaline soils it is as poor as low-soluble basic slag, and falls far behind high-soluble basic slag and superphosphate; where on acid soils it is markedly superior

to the low-soluble slag, and is almost the equal of superphosphate and high-soluble slag.

Observation of the plots themselves showed that in almost every case superphosphate had the most rapid effect on the growth of the grass, and in the first year's cut of hay it nearly always took the lead. It also exerted the greatest effect on the quality in the first year. High-soluble basic slag, and in the acid soils in most areas Gafsa phosphate, came close seconds. Superphosphate and high-soluble slag tended to give a more succulent herbage in certain cases where they out-yielded the other fertilisers, that is to say, not only was there more dry matter but there was a higher water content associated with it, the herbage was moister, more succulent, and less wiry.

Since the improvement in quality accounts for much of the effect of phosphatic treatment, the evaluation of this is not easy, for although a price may be put upon vegetable protein, say in linseed cake, and upon calcium phosphate in sterilised bone flour, it does not follow that the protein and phosphorus compounds of fresh grass will have the same value. Probably they would have the extra value generally associated with fresh fodders. In any case, the amounts of extra nutrients obtained through phosphatic manuring are considerable. Take for instance the position at Northallerton, one of the more responsive centres.

TOTAL EXTRA PROTEIN AND PHOSPHORIC ACID
RECOVERED IN 3 SEASONS.

	<i>Protein</i> <i>cwt. per acre.</i>	<i>Phosphoric acid</i> <i>lb. per acre.</i>
Present in unmanured herbage	4.57	16.2
Increase by Superphosphate ...	3.14	23.6
„ „ High Soluble Slag ...	2.88	20.6
„ „ Low „ „ ...	1.24	6.1
„ „ Mineral phosphate	2.68	18.0

To supply 3 cwt. of protein and 20 lb. phosphoric acid would require about half a ton of linseed cake.

There is still the question of lime, a good supply of calcium being most essential, particularly for young stock and deep milking cows. Calcium-deficient soils produce lime-deficient herbage, and it has been shown repeatedly that the addition of lime or chalk rapidly increases the calcium content of the grass. This effect is brought about not only by direct additions of lime, but also by the lime combined in the phosphates, all the commoner of which contain their phosphoric acid combined with calcium. There is the related but distinct question of the reduction of the acidity of soils by means of basic phosphates. Basic slag has been most examined in this connection since it contains quite an appreciable amount of

easily decomposable lime compounds that exert a neutralising effect in the soil. As a rough working figure it may be reckoned that basic slag has the neutralising power of two-thirds of its weight of limestone. While this action must not be over-estimated, nevertheless, when low-grade slags are habitually used, involving dressings of the order of 15 cwt. per acre in order to secure the required amount of phosphoric acid, then the liming effect must be quite appreciable, being approximately equal to half a ton of limestone per application in this case.

We may now summarise the position in regard to the choice of phosphates, so far as it has been revealed by the above experiments. On any soils, acid or neutral, basic slag of the high citric soluble type does well. On acid soils there is something to be said for using low grade slags of this description, in order to benefit from the calcium which accompanies the phosphoric acid. Superphosphate is the most active of any phosphate in the year of application, it is particularly suited for calcareous soils, although it has done well even on most of the acid soils examined. Ground rock phosphate has little to recommend it on neutral or alkaline soils, but on acid soils its effects have been very good and it has ranked about equal to the most soluble phosphates tried. This leads to the view that on such soils finely ground mineral phosphate may be given a trial. Although good results have been reported from dry areas, the general impression is that rock phosphate is favoured by a moderately high rainfall. If the soil is exceedingly acid, then liming followed by basic slag will probably be a better policy. The basic slags of very low citric solubility have not proved very successful, but perhaps a little more active on the acid soils. They have, of course, a certain liming effect. It is important to note that we know as yet very little about the basic slags falling between the widely set limits of the above experiments. It is possible that such "medium-soluble slags" as they may be called, lie closer to the high-soluble than to the low-soluble in their agricultural behaviour. This point is now under test.

Although in the choice of phosphates, price is not the main criterion, we must not fall into the opposite error of neglecting cost entirely. On deciding which type of phosphate is likely to do the best under our circumstances, it is wise to reckon out the cost of the alternative fertilisers. In actual practice the price difference per acre will not be large, and where necessary, a few shillings expended in obtaining the correct manure should be well repaid. On the other hand, by working out the cost, we may in certain cases be able to substitute a cheaper for a more expensive phosphate with every chance of equally good results in the field.

DAIRYING IN CHESHIRE

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We have some other interests : potatoes are grown in great quantities in North Cheshire ; many pigs are fed in South Cheshire ; the market gardeners around Manchester are an important group ; and hens there are everywhere ; but milk is the mainspring of Cheshire life. The first sound to greet the new born infant's ears is the mooing of cows around the farmyard gate ; his earliest recollection is of great tankards of milk and the soft warm smell of cows in sheds ; his first lesson in farming is on how to milk ; daily throughout life he tends his cows, his staple conversation and every waking thought the ways of cows (and Milk Boards !) and in the fulness of time is carried to his grave through herds returning from pasture. Hardly anywhere else in this country can one find an equal area so completely dominated by one idea.

CLIMATE AND SOILS

There are both natural and historical reasons for this. In the first place the area is naturally suited to grazing stock. Lying between the great mountain masses of North Wales and the Pennines on the Western seaboard the Cheshire plain enjoys a mild open climate, with an abundant and evenly distributed rainfall. Real drought in summer,—such as we suffered from in 1934,—is rare ; as a rule Cheshire is a green oasis in a year which browns the pasture of England.

Triassic rocks underlie nearly the whole of the county. That fact in itself suggests fertile soils, for the New Red Sandstone is among the best of British soil-producing rocks, the Keuper marl in particular yielding fat and fruitful earth. On top of that we have glacial drift, varying in depth from a few inches to 600 or 700 feet, consisting partly of local material, partly of granitic detritus from the northern counties. Speaking very generally, the soils in south Cheshire are heavy boulder clays, resting on marl, while in the northern half of the county they are less fertile and lighter, resting on sandstones.

SOUTH CHESHIRE.

There is little doubt that the system of dairy farming which now overspreads the whole area derives originally from that evolved on the heavy soils in the south. If indeed one had to write the history of British dairying, it is to the triangle of Cheshire land lying south of the Roman city on the Dee one would look for earliest evidence.

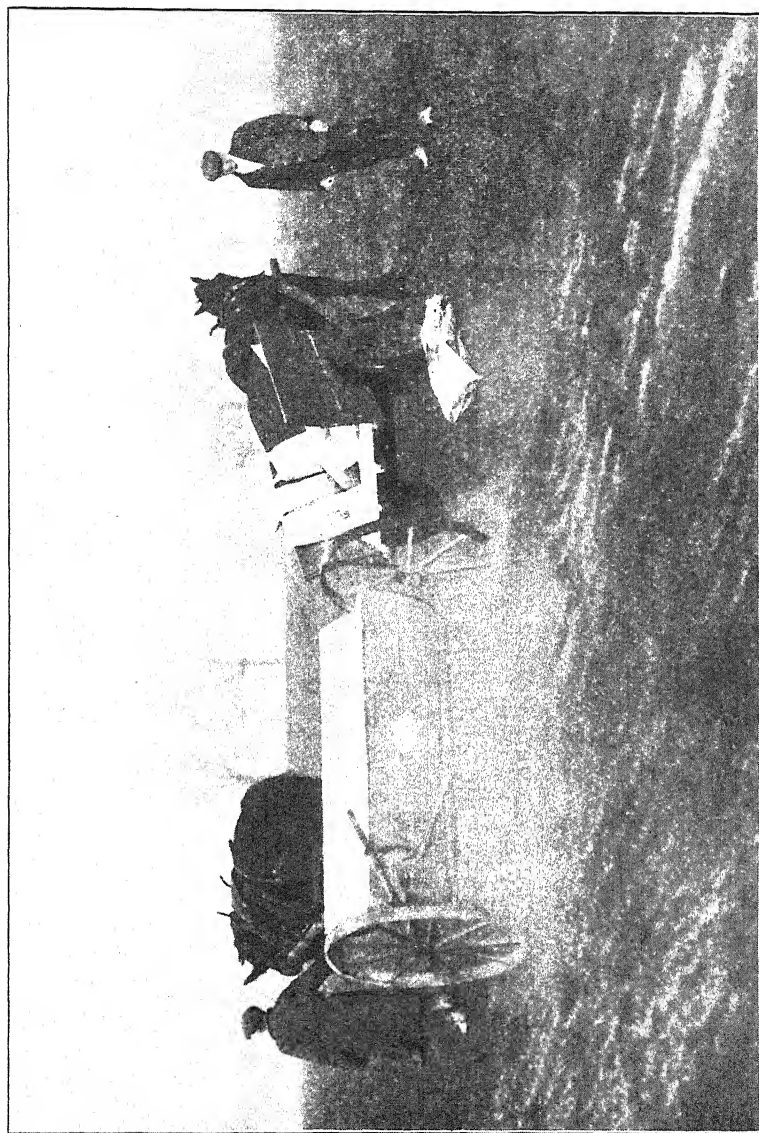
Over most of England,—most of Europe for that matter—open-field arable farming held sway from prehistoric down to Tudor times, the population being gathered together in biggish villages, laboriously cultivating scattered strips of land in great communal fields. In Cheshire things were different. There were open fields, worked in common, but they were small; and enclosure both of the waste and of the common fields began at a very early date. Tiny villages and hamlets peopled by holders of enclosed blocks of land were already characteristic in Angevin and probably in Norman times. The land was stocked with cattle, and the milk was converted into cheese. It is said that the Roman legions on the Continent drew cheese supplies from here, but authentic records from those distant times are not easy to come by; one has to pass over many centuries of turbulent times before the evidence becomes reliable. It is reliable enough, however, in the sixteenth century, for a great wholesale trade with London undoubtedly existed then, a trade which has steadily persisted until this day.

“The grass and fodder,” says Camden “is of that goodness and vertue that cheeses be made here in great number and of a most pleasing and delicate taste such as all England again affordeth not the like, no, though the best dairy women otherwise and skilfullest in cheese making be had from hence.”

It was natural enough for Camden to think that the peculiar qualities of the cheese were due to some curious property in the land on which the cattle grazed. It was natural enough that such an idea should persist till the nineteenth century. But it is curious to note that it still persists. Whether there is anything in it or not, the present writer is unable to say. It is certainly true that prizes at cheese shows still go in the greatest numbers to farms in particular areas.

EARLY IMPROVEMENTS.

With a steady trade in cheese from age to age land improvements have naturally been continuous. Much the most important of these has been marling. Marl consists of clay with an admixture of anything from 2% to 25% of limestone. One can dig it out of almost any field in south Cheshire; in fact it has been dug out of almost every field, as our innumerable pits testify. They filled up with water, as a rule, within a year or two of the digging and for centuries have served the secondary purpose of drinking pools (dangerous drinking pools, as we in this age of John's disease have learned to our cost). Marling was a laborious job, involving the carting out of at least a “long hundred” loads per acre,—there can be no question that the old saying “a man marls for his grandson” expressed a profound truth. We are still drawing benefit from our forefathers' investment, though scarcely a man living to-day has seen



ONE OF THE SECRETS OF PASTURE MANAGEMENT—LIMING.

marling practised. Lime also was early and abundantly used ; in later times,—mid nineteenth century,—bones were put on the grassland in prodigious quantities. (There are traces of bones put on at least a century ago in some of the fields at Reaseheath). Pipe drainage was introduced at an early date, too. To-day there is hardly a field in south Cheshire which has not been tile drained. Artificial manures, especially slag, have been employed very freely, ever since they were introduced.

And, as might be expected, dairy farmers were quick to see the opportunities opened up to them in a Free Trade policy which brought corn to their very doors, free of tax. American wheat, Argentine maize and West African palm kernels have in this age brought incalculable benefits to our cow pastures.

Cheese-making however, began to decline as soon as the railways opened up a trade in liquid milk, and from the middle of last century the adherents to that craft have steadily lost ground to the liquid milk sellers. At the time of the Great War probably half the farms in South Cheshire had already turned to the easier trade in milk.

NORTH CHESHIRE.

The northern half of the county has not quite such a distinctive history. As in most parts of England there was much waste and forest land in mediaeval times ; farms, when enclosed, were in scattered clearings rather than in solid blocks, and arable cultivation has always competed with dairy farming. Situated close to the great markets of South Lancashire it naturally turned to milk selling more rapidly than South Cheshire. Yet even here cheese-making was common some 40 years ago and isolated farms still pursue the practice.

The whole county can be looked upon as an area of small holdings. Though more than a half of the land is in farms over 100 acres, the average area of a holding is less than 5 acres. Farms under 20 acres exceed in number those over that area, and there are only 56 farms exceeding 300 acres in all the county. Nor are the large farms segregated in groups. For the most part small, medium and large are mingled indiscriminately. Quite characteristic of the area is the fact that it is farmed by Cestrians. There is some give and take, especially on the southern border, for the farming of North Salop is typical rather of Cheshire than of Shropshire ; but real immigrants are rare—a fact one would be led to expect from what has been said of the county's history. One would, too, expect in a race tied for so many generations to dairy farming certain other features which, after many years' residence, still strike the writer as characteristic—untiring industry and immense affection for the

homestead. Every farmer in Cheshire is his own foreman ; an untidy holding is rare. In no part of the country are neater and tidier homesteads to be found.

CHARACTERISTICS OF CHESHIRE FARMING.

Probably the first impression a visitor to the shire gets is that of age. Everything about our farming bespeaks an old industry. Critics would perhaps add the same of our minds. Maybe we are conservative. If you come of a long line of men who have made good in one particular type of farming, you are naturally inclined to follow in father's footsteps ; you are not likely to get excited about every new idea bruited abroad. So often the new ideas turn out to be but old ones in new guise. You will be likely, therefore, to go a bit gingerly in adopting new methods. On the other hand you *ought* to be in a position to judge how best to effect improvements. Quite certainly you will build on an old foundation, not run up a completely new structure.

"When I came to this farm there were only 30 cows on the place. Now I'm milking 50." Therein is expressed the central idea of Cheshire dairying—cows are the most likely stock to pay, therefore have as many as you can possibly carry. "Are draining, manuring, cultivation, purchase of foodstuffs worth while ? . . . Well, will they help you to keep more stock ? If so, yes ; if not, the answer is doubtful. 'Crowd on the cows' is the golden rule in farming."

HEAVY STOCKING.

Now carrying a lot of stock is not necessarily sound economy ; one could indeed easily prove on paper that a small, heavy-yielding herd is a better proposition than a big herd of medium milkers. It all depends on the prices adopted in the calculation,—only put the capital value of the cow high enough and the argument becomes falsified. The burden of evidence in this area certainly is that heavy stocking pays. The select high yielding herd is a lot more difficult to achieve in practice than on paper. The big stock, on the other hand, is attainable by straight forward, and, on the whole, fairly certain procedure. Pursuit of this ideal undoubtedly encourages high farming of arable and grass land. It also encourages liberal purchase of feeding stuffs,—too liberal, perhaps in some cases. Most of the big farms carry one cow equivalent to every two acres ; the smaller farms are, on the whole, even more densely stocked ; here one cow to every two acres, with horses and young stock in addition is common. The county experimental farm at Reaseheath carries 28 milkers, a dozen or more young stock and a couple of horses on a bare 45 acres.

Heavy stocking brings, of course, its own difficulties. Disease risks are greatly increased ; calves and draft cows are thrown on the

market in huge numbers, depressing prices below their true economic level. Signing up of big milk contracts on the strength of the herd leads to buying in and yet more buying in. There are so many cows that room cannot be found for rearing. All these drawbacks have to be admitted. They do not appear to counter-balance the advantages; and after all a heavy stocking on land rented at 45/- an acre,—there is very little at less, and a great deal at more,—is a natural and normal expectation.

The standard stock of the county is, of course, Shorthorn. There are a few good Friesian herds,—some indeed with a national reputation—and here and there good stocks of Ayrshires and Red Polls can be found. Collectively, these breeds, however, do not count for much in the 120,000 milkers which the county boasts.

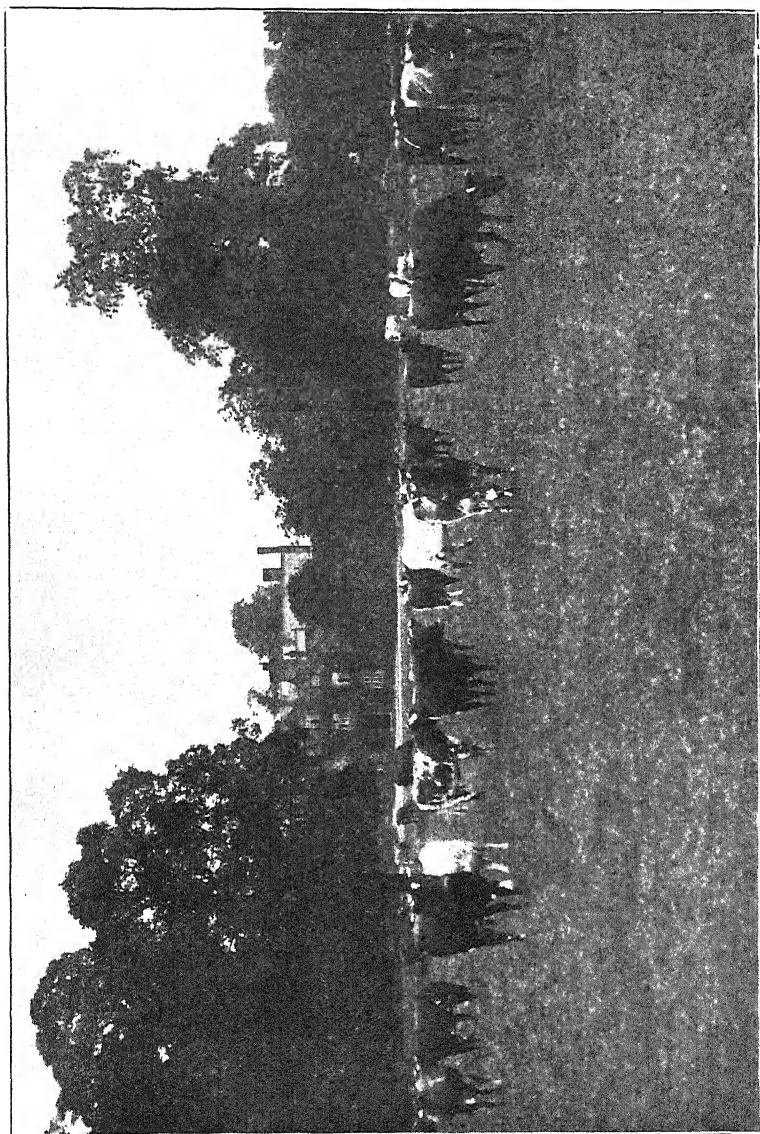
REARING.

Practice varies greatly as regards rearing. On some farms nothing is reared and all calves are sent to market at a few days' old. In such cases a good beef bull may be used,—some farmers have regular contracts with dealers or rearers in other areas for all the calves dropped.

In years gone by north country cows were imported in large numbers. To-day Wales and Ireland are the great recruiting grounds. Irish stock enjoy a particularly good reputation for growing and “doing well” after arrival. They seldom do themselves justice in their first lactation in the area, a penalty no doubt of the long journey they endure on their way here.

Most farmers, however, rear a few calves annually, possibly half their requirements. The results are so variable that it is difficult to write of this practice with any degree of enthusiasm.

Culling of heifers tends to be heavy, as the proportion of good milkers is distressingly low. Let not the critic hastily conclude that that is merely because insufficient care is taken in choosing the bulls, insufficient prices paid. That isn't the reason. There are indeed here, as elsewhere, buyers whose chief requirement in a bull is that he shall get cows in calf. But there are far more who want a bull of breeding and quality. Unfortunately these latter cannot produce much evidence from the pail to support the use of reputedly milk-bred sires. It is relatively easy to breed good-looking young stock by such means; infinitely more difficult to breed something which will satisfy both the judge and the owner with a milk contract to fulfil. Rearing costs, moreover, are heavy. Land is expensive, overhead expenses generally are high; in most winters our land will not carry horned stock, and yard accommodation is limited; in an average season there is no “stirk fodder”



A TYPICAL SOUTH CHESHIRE HERD.

in our hay barns; milk is precious. True, we don't use a lot of milk in rearing,—dry feeding is pretty generally introduced as soon as the calves will take to it,—but even so 40 or 50 gallons tots up to a considerable sum in the winter months. Add to these facts the risks of failure or partial failure and the fact that selected Irish and Welsh heifers are purchasable at a figure lower than our own “cost of production,” and it becomes difficult to establish a case for rearing. Only on grounds of hygiene can one argue really strongly in favour of it.

MACHINE MILKING.

Within recent years milking machinery has made great headway on the larger farms. On the whole most buyers seem satisfied with their investment, though here and there a man learns by bitter experience how easily he may, inadvertently, distribute udder affections thereby. There is no room for argument as to the saving in labour the machine is capable of effecting; whether labour saving at milking time is or is not a great *desideratum* depends on the farm. There are holdings,—especially mixed holdings,—where a certain amount of labour, engaged primarily for other purposes is available at milking time; and here the machine is naturally seldom found. On the big grass farms too, the machine is not always in use, though it may be installed, for with a spring calved herd, there comes a point in the autumn when it is cheaper to go back to hand milking than to use the machine.

BUILDINGS.

Our buildings lend themselves well to the use of machinery, for they are always compact. In design they vary considerably on different farms, yet always there is evidence of evolution from a common type. The main idea of the builders of a century ago was compactness, so they built two or three long blocks at right angles to one another, forming in plan an L or a U. Each block was divided into sections by cross walls, and in each section cow stalls were placed in double or single ranks across the width of the building. Hay lofts ran the full length of each block, circular openings being left in the walls to serve as pitch holes. The central point of the whole design was of course the midden, and, as though to emphasize its centrality, the farmhouse was so placed as to command an uninterrupted view thereof. This arrangement was and is convenient as regards labour; and there are many advantages in having cattle separated into blocks. Within recent years, however, nearly every building has been altered. The midden has been replaced by a lawn, and arrangements have been made for the stock to enter from the outer sides of the quadrangle. Very often the cross partitions have been swept away and the cattle stalls turned to run the length of the block, an outer “shoring” being

added if the original building was too narrow to allow of two ranks being provided for. Ventilation has, of course, been improved and in very many water bowls have been installed. Mechanical devices for manure carrying are, however, rare; the wheelbarrow,—now usually rubber tyred,—is the almost universal implement for “mucking out.” Concrete has proved a great aid to cleaner methods. We have all learned how to use Portland cement to good effect.

Water is another boon. It is naturally a well watered area. Landlords have seen to it that natural supplies are utilised to the full and district councils have displayed a foresight beyond all praise in the development of public supply schemes. There are 700 miles of mains in the Nantwich Rural District. 700!

WINTER FEED.

Hay is our staple winter feed. An acre of hay to the cow is the normal allowance. The winter is, of course, long. Even the cheese-makers have to house their stock for five months, while the milk sellers generally reckon on 7 months, for cows do not milk well on autumn grass. Considering the enormous amounts of dung available, hay yields are not perhaps as heavy as a stranger might expect. Twenty-five hundredweights of hay per acre is considered a good yield from the stack. Early mowing, is however, very prevalent, for everyone accepts the adage “a ton of June hay is worth two tons cut in July.”—an adage which now has the blessing of agricultural chemists! Nor are our hay-making methods very advanced. There are few sweeps, comparatively few elevators. As a rule, the swath is turned by machine, or tedded (tedders are much commoner to-day than a few years ago), raked into windrow, then cocked by hand and loaded by hand. The hay is invariably carted home and stacked in Dutch barns, or put on to lofts. Thatching is rapidly becoming a lost art. Periodically some pioneer introduces a new method. Here and there one notes a loader at work and in selected fields in selected seasons it thoroughly justifies its introduction. Baling in the field has been tried with great success in certain cases; the Scottish “pike” system or its modern derivative with triangular bosses has its advocates; artificial drying has been experimented with on a large scale; stack ensilage is quite common. All these alternatives have had or are having fair trial; none of them seems likely to displace the standard method evolved over many years in a damp and “catchy” area of small fields, small farms,—and small capitals!

ARABLE CULTIVATION.

As regards cultivation, a distinction must be drawn between arable farms and farms which have arable land; in Cheshire it is

safe to say that the former is a farm with good potato land, otherwise it would not have much arable ; here interest is divided between the cows and the potatoes. Most dairy farmers would prefer to have some arable land ; and practically everyone with an easy-working field, ploughs that field. It is valued mainly for two things,—kale and seeds hay. Kale is the one remnant of the war time plough propaganda. It is an invaluable feed for the autumn months. We don't grow a big acreage, of course, perhaps one acre to twenty cows, but we grow pretty big crops very easily and cheaply. The seeds break is useful because we can count on 50 cwts. per acre of hay in the season. Oats is a mere filling-in crop, useful enough in its way (especially on account of its straw), but not of serious importance compared with the other two. A few acres of mangels well "done," but very expensively cultivated,—the growth of annual weeds on our fertile root breaks passes belief,—are generally grown to follow the kale. Yields again are high ; thirty tons an acre is common ; forty sometimes ; now and again something approaching the weights one reads of in catalogues and other imaginative treatises.

PIGS AND SHEEP.

Pigs are a very important side line throughout the south, less so in the north of the county. The south Cheshire farms are, of course, all built to provide for cheese making, so that piggeries are extensive ; and where cheese is still made, farmers must perforce keep them filled. (The pig is still the only means of rendering whey innocuous). Probably the county as a whole has increased its pig population since the introduction of the marketing scheme, to a greater extent than most. A considerable number of new houses, to designs based on Scandinavian models have been put up within the past two years. Further developments are virtually certain, so that the opinion of Cheshire dairy farmers is a force to be reckoned with in the future of the pig scheme.

Sheep farming is for all practical purposes limited to flying or "walking" flocks for early lamb. Opinion is divided as to whether it is better to face the high depreciation on the ewes and dispose of them annually, or to buy younger animals, accept the risks, and keep on for two years. Two factors combine to limit any considerable development of sheep farming,—restricted areas, and late springs. Fear of parasites prohibits heavy stocking ; the danger of close grazing in spring is that the summer's growth will be checked. It is poor economy to feed lambs on April grass if the result is that the cows go short all summer, as they well may if May be droughty. On the all-grass farms, the meadow land which has been manured for hay is probably the safest grazing for lambs in early spring ; on the semi-arable farms of course temporary grass provides the required keep.

EDUCATION.

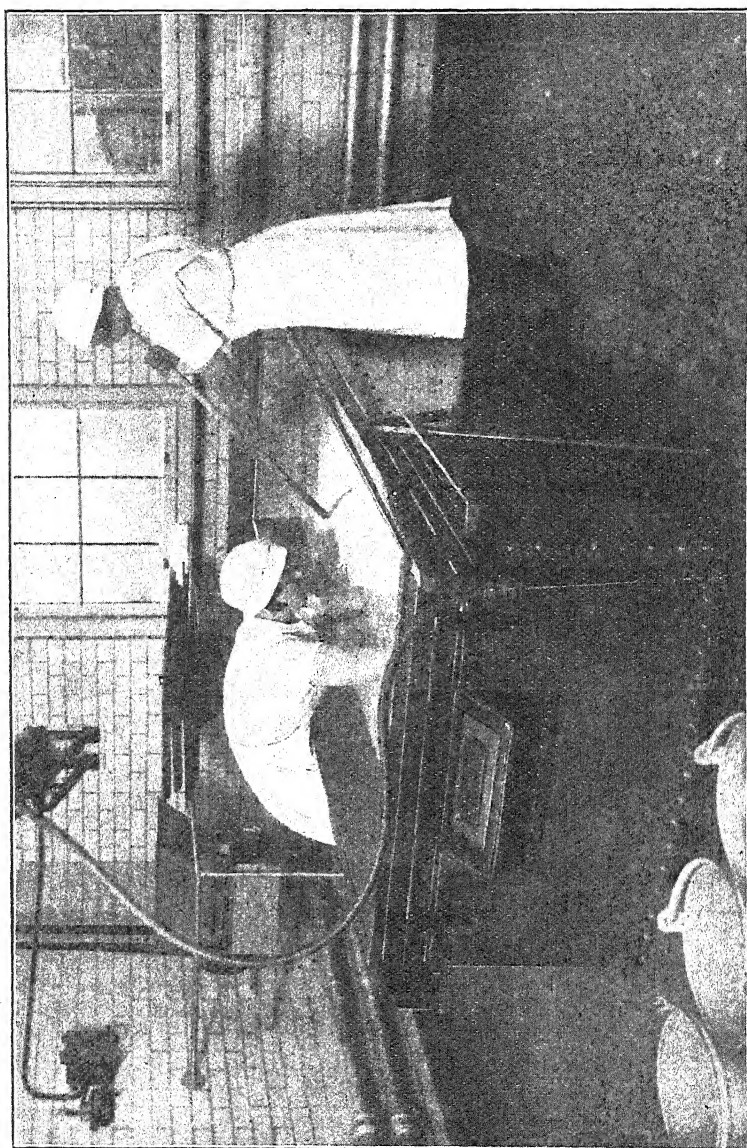
In educational developments Cheshire has been a pioneer among English counties. There was a school of dairying at Worleston in the 80's of last century, and agricultural college in the 90's. In the war a whole estate was bought for the purpose of founding a teaching centre and to-day Reaseheath ranks as one of the largest and best equipped institutions of its kind in the country, possessing as it does two farms, extensive garden and poultry departments and a large teaching dairy. Economic studies have from the outset characterised the work of these departments. Their work on tuberculosis in cattle, for instance (there are two herds, both non-tubercular) has involved a most comprehensive study of this problem ; their dairy methods have profoundly influenced farm and factory management. As might be expected they have led the way in the production of graded milks.

Prior to the introduction of the Accredited Milk Scheme the number of graded herds in the county was not very large. The market for certified and tuberculin tested milk here, as elsewhere, has grown but slowly, and from 1922 onwards the supply has been at least equal to the demand,—usually rather in excess of it. There are some really excellent “ certified ” farms in the county.

The introduction of the Accredited Milk Scheme has created an entirely different position. At the moment of writing (March) applications for Grade A licenses are pouring in. Everywhere buildings are being improved, sterilising arrangements perfected. There is every indication that the number of accredited producers in the county will soon be very large. Fortunately the County Authority is in a position to undertake regular veterinary inspections gratis ; for they have for some years had a full time veterinary staff engaged in the examination of dairy herds.

RECENT HISTORY.

Milk and cheese have occupied so prominent a position in the general and agricultural press these past few years, that recent history can be stated very shortly. The Milk Marketing Scheme found Cheshire in this position,—everyone in the north was still finding a market in Lancashire, at prices varying according to the standing of the individual producer or buyer ; undercutting had become very rife, both in the wholesale and retail trade. Central Cheshire was selling almost entirely on 2 (b) contracts to London or to manufacturers, at an average net price of about 8d. In south Cheshire cheese-making was giving way rapidly ; there had been some 2,000 makers at the end of the war, but probably there were not more than 1,000 in 1933. The remainder had accepted 2 (b) contracts. The faithful remnant remained however a solid and



CHESHIRE CHEESEMAKING—COOKING THE CURD.

powerful body, now organised into a Federation, with a regular grading system in operation, a registered trade-mark, an enormous goodwill. In the aggregate they had a big capital sunk in the business, immense technical skill, and a pride which passeth all understanding. They had the whole-hearted sympathy and often the very practical support of every landlord, every country tradesman, every professional man in the area. For Cheshire cheese is Cheshire cheese. It happens to be a good food. But we don't look on it merely as a home-made food. It is an institution, a fetish, a god. As the Nile is to ancient Egypt, so is cheese to Cheshire.

It is difficult to describe the consternation with which the Milk Marketing Scheme was received in this area. Everyone saw at once that its provision of cheap milk to factories meant ruin to the farm-house industry. The Federation took action instantly; they even went the length, of forcing a legal enquiry, in the hope of getting inserted into the draft, a provision which would protect them. What the result was, everyone now knows. Equally everyone now knows how entirely right events have proved their contentions were. After much bickering generous terms have now been offered to makers who will stick to their job. But only 187 have accepted the offer. Maybe they will live to "have the laugh of" the faint-hearts. Possibly there will be a "come-back" during the next few years. It is very difficult to say. Meantime cheese-makers as a body are contributing their quota to the so-called surplus.

Cheese makers apart, Cheshire generally accepts the milk situation with some degree of equanimity. The deductions exasperate everyone; those northern producers who held good contracts prior to 1933 are hard hit; the London sellers suffer heavily in freight charges. But one and all agree that life would by now have been a dog-fight had nothing been done. Which comes as near to praise as anyone in the agricultural world can expect.

THE ORIGIN OF BRITISH CATTLE

By CHRISTOPHER KINGSLEY.

Since the Great War more time and thought has been devoted to the improvement of our British breeds of cattle than ever before, with the result that to-day Britain can boast of possessing the healthiest, most vigorous and most productive cattle in the world.

Taking cattle as a whole there are few farming operations in which they have not figured at some time or another. In the earliest times they were of prime importance as a source of energy—ploughing, thrashing, harrowing and carting being operations regularly carried out by teams of oxen—but on a modern farm none of these operations is performed by animal power. Machines have been devised capable of doing all types of practical farm work, causing a revolution in the use of cattle as beasts of burden. Now they yield better quality beef through being slaughtered earlier in life before their muscles have become hardened and over developed by being constantly yoked to the plough. By careful selection two distinct types of cattle have evolved (1) beef cattle, (2) dairy cattle, with a subsidiary intermediate type—dual-purpose animals.

These types will be studied in more detail later, but it is interesting to note that, as science has evolved, a use has been found for every part of a bullock after it is slaughtered. The hide, horns, hoofs, intestines, the bones and countless other parts of the body can all be turned to good account.

BOS PRIMIGENIUS.

Cattle, antelopes, sheep and goats form the Bovidae family of the even-toed group of ungulates, and differ from each other mainly in their horns. The cattle section of the Bovidae includes oxen, bison, yak and buffaloes, all of which have the third and fourth toes well developed but have only minute vestiges of the second and fifth toes. Nothing very definite is known about the remote ancestors of cattle, but it may be safely assumed that they are descended from a race of four-toed ungulates having a three-chambered stomach and a simple diffuse placenta. In fact, examination of Neolithic and Bronze Age deposits points to the fact that for about 18,000 years there have been living in Europe three kinds of cattle, *viz.*, polled cattle, cattle with short horns and cattle with long horns. The most important of these was the gigantic *Urus*

(*bos Primigenius*) which survived in a wild state in Europe up to the beginning of the fifteenth century.

Caesar gives us the first description of these cattle in his diary :—These beasts are called Uri. In size they are a type smaller than elephants : in kind, colour and shape they are bulls. Great is their strength and great their speed ; nor, having espied them do they spare man or beasts. They are sedulously captured in pits and slain, the young men hardening themselves by much toil and training in this type of sport. But it was found impossible to accustom the Uri to men, or to tame them, not even though they were caught young. Their horns differed much in kind, shape, and size, from our modern cattle. They were anxiously sought after, their tips mounted with silver and used at banquets.

Two other types of animals are mentioned by Caesar as being found in the Hercynian Forests in Western Germany ; firstly a stag-like ox with a horn springing from the middle of its forehead between the ears, and secondly an elk which, having no joints or knots in its legs, could not lie down. If it fell by accident therefore, it could not get up again, and hence it reclined against trees by way of resting. This habit was ultimately the cause of its downfall, for the Germans weakened or undermined the trees and so captured the elks which leant against them and fell.

Though the Uri came to Europe in pleistocene times, there were no wild cattle living there under domestication until about the year 6000 B.C., but after then they managed to survive until the end of the fourteenth century and in Poland up to about 1627.

Opinion differs considerably as to whether this *Bos Primigenius* is the forefather of any of our ancient cattle. Sentiment and vanity tempt us to accept the idea, but when we get down to fact it is more difficult to believe. Skelatal inconsistencies and the fact that no remains of *Bos Primigenius* have been found in remains later than those of the Bronze Age tend to scatter our hopes. Moreover, our Park Cattle are much smaller than the original *Urus*, which is accounted for by some as being caused by confinement and consequent in-breeding, but there is no modern evidence to show that polygamous animals deteriorate in size through in-breeding.

BOS LONGIFRONS.

We must now therefore turn our attention to another species no bigger than a Kerry cow which the Romans found on the shores of Britain—*Bos Longifrons*. Remains of this type have been found

in all kinds of deposits from Neolithic down to the beginning of modern times, and if it was not brought into Britain in the domestic state it eventually became the domestic ox of pre-Roman inhabitants.

In "British and Irish Skeletons" Owen writes that:—"—— it differs from the contemporary *Bos Primigenius* not only in its great inferiority in size, being smaller than the ordinary breeds of domestic cattle, but also by the horns being proportionally much shorter and smaller as well as differently erected, and by the forehead being less concave. It is indeed usually flat and the frontal bones extend further beyond the orbits before they join the nasal bones, than in *Bos Primigenius*. The horn cores of *Bos Longifrons* describe a single short curve outwards and forwards in the plane of the forehead, rarely rising above that plane, more rarely sinking below it. The cores have a very rugged exterior and are usually a little flattened at their upper part."

It is generally granted to-day that the predominating colour of *Bos Longifrons* was black, which is largely explained by the well known fact in human history that as one race retires from before another from a territory, the retiring and invading races are usually accompanied by some part of their livestock. Cattle, too, being the chief source of food, clothing and power, were an outstanding necessity in man's existence. Hence, when the Celts were driven from Central Britain to the west by the English, they took the majority of their cattle with them, and as these are now predominantly black, we assume that their antecedents were also black. The intermingling of colour, such as we find at the present time, did not commence until the end of the seventeenth or beginning of the eighteenth centuries.

WILD WHITE CATTLE.

So far we have been unable to solve the mystery of our breed of Wild White cattle, which for some centuries was taken as descended from the mighty *Urus*. Modern investigators have come to the conclusion however, that our Park Cattle, as they are called, are descended from a breed of Italian Cattle brought over by Caesar in the first century B.C. The first man to really trace them to their source was Professor McKenny Hughes, of Cambridge, who, after studying the effigies on coins and other sources of information, concluded that the most likely ancestors were a race of wild cattle from Italy, West Asia and Egypt. The horns again formed an important and deciding factor, for whereas the horns of *Bos Longifrons* were short and curved forwards and inwards, the horns of the southern cattle were long, upturned and lyre-shaped with a peculiar final bend. The extraordinary resemblance between the English Park cattle and the cattle of modern Italy is expressed very

clearly by McKenny Hughes :—If a selection of the lighter coloured individuals of the common draught ox of Italy were turned out in a park in England no one would suspect that they did not belong to the Wild White breed. The white body, black muzzle and ears, with the lining of black hairs, and the black streak round the muzzle are identical.

When the Romans left Britain, they did so in great haste, taking with them only the bare essentials of life, fighting gear, food, and transport animals. The bulk of the cows were left behind to become feral. The Saxon invasion, too, followed that of the Romans so closely that the unsettled natives did not have time to appropriate the Roman leavings. Thus it was that the cattle formed themselves into herds and roamed the country until they were enclosed in the parks and chases of the mediaeval land-owners. During the Saxon invasion little heed was taken of them, so that when the Normans came they found a race of ferocious beasts, no longer the quiet pack animals of the Romans. A few of them were kept tame by the Celts in Wales, who did not enter into the strife during the Saxon campaign.

THE ANGLO-SAXON CONTINGENT.

From this time on, the campaigns in Britain altered, for no longer were the inhabitants driven in front of their conquerors, but mingled with them, causing the cattle to mingle as well.

It is unfortunate that although much has been written of the history of British cattle since the middle of the eighteenth century, the period before that is almost without record. About this time, however, the longhorned and shorthorned breeds came into prominence in the Midlands, sweeping out many old local breeds or types. To-day we find the south of England encircled by a band of red coloured cattle, the Lincolns, the Red Polls, the Sussex, the North and South Devons and the Herefords, all of which have evolved from the old red contingent by judicious breeding since the advent of the eighteenth century.

Remembering that before that time cattle were seldom moved from one place to another unless their owners took them in their migrations, and remembering the history of England at the same time, we may safely say that these cattle were brought to England by the Anglo-Saxons.

POLLED CATTLE.

Up to now our attention has been directed entirely towards horned cattle, perhaps because there are about six times as many horned breeds as there are polled. Nevertheless, there were in the eighteenth century eight or ten polled breeds of cattle, round

the coasts of England, Scotland and Ireland. The Suffolk Duns, The Angus Doddies, The Buchan Hummies, The Sutherland Polls, The Galloways, The Devon Natts, The Somerset Polls and The Irish Moiles. If the individual descriptions of these breeds are studied there can be no other conclusion drawn but that they all originated from the same race which was quite different from all other races in Britain. They were, of course, hornless ; light dun in colour, small in size, had a deep long head, a narrow chin and loins, a deep body, short legs, sickle shaped hocks and gave a good yield of fairly rich milk. It must also be noted that all these breeds are located on the coast in the tracks of the Norsemen, which points to the fact that the original hornless race was of Scandinavian origin. In support of these facts it can be shown that the polled cattle came to this country at the same time as the Norsemen and that similar cattle were taken to other places where the Norsemen settled, and that the same race still exists in Europe from Norway to Northern Russia.

Of these polled breeds, three only remain to this day, the Angus Doddies, The Galloways, and the Suffolk Duns, the latter having been crossed with the Norfolk Horned breed to produce the modern Red Poll.

THE DUTCH CONTRIBUTION.

After a lapse of from seven to eight hundred years another importation is registered. The tracks of these cattle brought over from the Low Countries are little clearer than those of the Scandinavian cattle. This may perhaps be accounted for in part by the fact that there was no human migration to correspond. The sixteenth century witnessed a great step forward in the conquering of the sea, and trading became far more common than had hitherto been the case.

Up to this time the original British cattle and all intruding races were whole coloured ; the Celtic cattle were black, the Roman white, the Anglo-Saxon red, and the Scandinavian light dun. The cattle now to be imported were chiefly of broken colours. The date of their first arrival cannot be fixed, but it is thought to have been sometime during the fifteenth century. Lincolnshire seems to have been the first county to receive any, but soon after they spread as far south as Kent, where they had a good reception. Mortimer gives us a short and concise account of them in his book, "The Whole Art of Husbandry" :—

"But the best sort of cows for the pail, only that they are tender and need very good keeping, are the long legg'd, short horn'd cows of the Dutch breed, which are to be had in some places in Lincolnshire, but most used in Kent."

Hale writing about them states, "They are to be had in Kent and Sussex and some other places where they are kept up without mixture in colour, and where they will yield two gallons at a milking ; but in order to do this they require great attendance and the best of food. The Alderney cow is like the Dutch in the shortness of her horns, but she is somewhat stronger built and is not quite so tender."

THE FOUNDLINGS.

Finally, we have to turn to a type of cattle which had a habit of cropping up unasked in many breeds, but most notably in the Highlanders and Longhorns. They are almost black in colour, with a brownish stripe along the back and a ring of similar colour round the muzzle. Strangely enough, there is another breed almost at Britain's doors in which this peculiar colouring is quite common, namely the Jersey, and when these are crossed with red or black cattle the offspring appear with characteristic markings similar to those mentioned above. French and Swiss cattle also have this colour, suggesting that there may be some connection between the four breeds, but still we have no record of how or when they came to Britain.

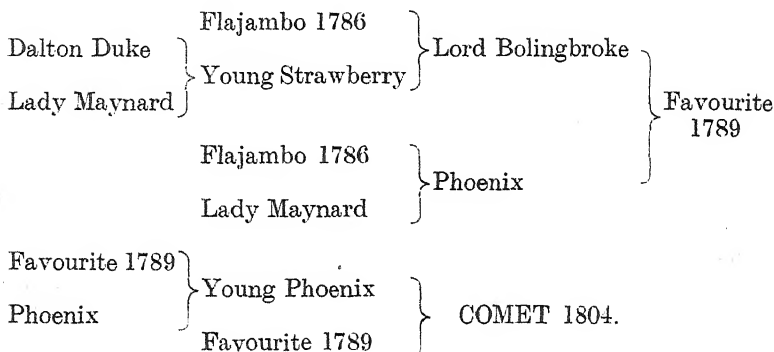
There are, however, two other possibilities, they may have arisen by the mingling of Celtic, Roman, Anglo-Saxon and Dutch blood, or some of the Dutch contingent may have had blood of the neighbouring countries of France and Switzerland in their veins.

LIVESTOCK IMPROVEMENT.

It is doubtful whether the British farmer ever thought much about improving his cattle before the importation of livestock from Holland ; but when he saw this class of animal he began to realise that his own were not so good or so profitable as they might be. As one would expect, the art of breeding was first applied to horses, for we read that Henry VIII. imposed a fine of forty shillings on lords, owners and farmers who willingly suffered any mares to be covered or kept with any stoned horse under fourteen hands. Later we read that farmers were advised not to mix the red Anglo-Saxon cattle with the black Celtic races, but it was not until the eighteenth century that a leader came forth in the person of Robert Bakewell, a Leicestershire man born in 1726, at Dishley, Loughborough. Bakewell was a farmer by birth, a close observer and an unparalleled judge and spent much of his time travelling in England and Holland. Whether he travelled and found or travelled to find cannot now be told, but at one time and another he brought

home the choicest stock from the places he visited. These he bred and inter-bred, transforming the old draft ox into a beast more suitable for beef. To eliminate undesirable stock, he bred from remarkably close relations, and kept his bulls until they were very old, using them on their own progeny to fix type. Bakewell, too, was the pioneer of a system now largely advocated, *i.e.*, the letting out of bulls on hire for a season or two. In this way the blood of his stock was disseminated among the stock of other breeders, while at the same time its connection with the fountain head was not necessarily broken. Some of his bulls he sold outright, thus spreading his type about the country.

The following diagrammatic pedigree of Charles Colling's bull Comet, illustrates Bakewell's system admirably :—



This is an instance of purification after considerable mixing, an art which has been practised in nearly every one of our present day breeds. The bull Comet, looked upon as the father of modern Shorthorns, was obtained by consistent in-breeding to fix desirable features and to eliminate irregularities. Owing, however, to all the mixing which has gone on in the past it is now practically impossible to always breed true to type. Irregularities must and do sometimes occur. Aberdeen Angus cows have sometimes red calves, and physical irregularities also occur on account of this mixing of blood.

MENDEL'S THEORY.

This mixing of colour was later expounded by Mendel in his theory of breeding. He maintained that a pure red beast had a double determinant for redness which it passed on to its progeny, and similarly a white beast had a double determinant for whiteness,

and when these were bred together the progeny were roans as shown by the following diagrams.

$$\begin{array}{c} \text{X} \quad \text{O} \\ \hline \text{X} \quad \text{O} \\ \hline \text{pure red} \quad \text{pure white} \end{array}$$

Gave four roans.

X

O

$$\begin{array}{c} \text{X} \quad \text{X} \\ \hline \text{O} \quad \text{O} \\ \hline \text{roan} \quad \text{roan} \end{array}$$

Gave two roans, one white, one red.

$$\begin{array}{c} \text{X} \quad \text{X} \\ \hline \text{O} \quad \text{X} \\ \hline \text{roan} \quad \text{pure red} \end{array}$$

Gave two roans and two reds.

$$\begin{array}{c} \text{O} \quad \text{X} \\ \hline \text{O} \quad \text{O} \\ \hline \text{pure white} \quad \text{roan} \end{array}$$

Gave two whites and two roans.

When blacks and reds are bred together the off-spring are all black, but have the red property latent within them, which may burst forth in a later generation. These are called black masqueraders.

$$\begin{array}{c} \text{B} \quad \text{X} \\ \hline \text{B} \quad \text{X} \\ \hline \end{array}$$

Gave four black masqueraders.

As more factors are introduced these determinants become more and more unstable, so that it is easy to realise how a factor may remain dormant for several generations and then manifest itself once again when least expected.

CONCLUSION.

As has been already mentioned the main use of cattle prior to the eighteenth century was as a beef producer and a draft ox. Latterly, however, their value in this respect has steadily declined, due to the greater use of machinery for haulage work, while their milking value has had an upward trend, so that to-day cattle are of prime importance for dairy purposes. This change has been brought about by a similar system of breeding as has here been explained, combined with the milk recording of the cows, and a very recent innovation—bull recording. It has been found that milking and butterfat properties are transmitted from beast to beast in the same

way as colour is transmitted, but it is more difficult to mate two high producing beasts together than two beasts of the same colour, since the productive capacity of a bull is a factor which can only be ascertained through years of breeding and constant observation, coupled with accurate records.

The method of selecting a dairy cow is comparatively easy, since it is based on her yields in former lactations, but in the case of a bull his worth can only be estimated after some of his daughters have come into milk and this is invariably about a year or two after he is dead! Some system therefore remains to be devised, whereby a dairy bull may be kept, without costing the farmer too much, until some of his progeny have been recorded, and then he may be slaughtered or used again as the case may warrant.

At the moment we are only on the threshold of a new era in dairy cattle breeding and milk production. The consumption of milk in this country per head of population is only a third of a pint per day, the lowest of any of the European countries. The average yield per dairy cow in this country cannot be put above 500 gallons, a figure which barely offsets the cost of production, and, further more, a large number of our dairy cattle are said to be infected with Tuberculosis in one form or another.

We therefore anxiously await the time when our pastures may be grazed from Lands End to John O'Groats by tubercle-free cattle, yielding on the average a thousand gallons of milk per year, and when our population may realise that milk is a cheap, wholesome and complete food.

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THE WORLD'S 10th DAIRY CONGRESS, 1934

By JAMES MACKINTOSH, O.B.E., N.D.A., N.D.D.

CONGRESS METHODS AND CONCLUSIONS

The Tenth World's Dairy Congress was held in Rome and Milan in May, 1934.

International Dairy Congresses are now held at intervals of three years under the general auspices of the International Dairy Federation. In 1931 the Congress met at Copenhagen in Denmark and in 1928 at London. In the country selected for the Congress a Committee is appointed to make the arrangements for the meetings and visits to places of importance in the science and practice of Dairying, and for a variety of social functions.

The organisation of the representation of British Dairying is undertaken by the British Dairy Farmers' Association, in accordance with an agreement made in 1928 with the International Dairy Federation. Great Britain is represented on the permanent bureau of this Federation by J. Gillard Stapleton and Dr. T. J. Drakeley.

On this occasion the total number of representatives from Britain was fully 100 and the majority of these left London on the afternoon of Saturday, April 28th. Others had made the journey earlier and all met in Rome on Monday, April 30th, when the Congress was officially opened. The British delegates and members comprised representatives of the wholesale and retail milk trade, dairy education and research, dairy administration and a few dairy farmers.

The total number of members of the Congress was about 2,000, representing every country in the British Empire, in Europe and several others.

The Congress was opened officially at 11 a.m. on the morning of Monday, April 30th, at the Capitol by His Excellency M. Mussolini, Head of the Italian Government, in the presence of high officials of the Government, many members of the Diplomatic Corps, the heads of forty-six official delegations to the Congress, members of Bureau of the International Dairy Federation and many members of the Congress.

In the afternoon of the same day the work of the Congress was begun by meetings of several of the sections into which the Congress had been divided. The sections were classified as follows :

- Section I. Cattle Breeding and Milk Production.
- Section II. Hygiene, Chemistry and Bacteriology of Milk.
- Section III. Industrial Utilisation and Commerce of Milk and Dairy Products.
- Section IV. Teaching, Experimentation and Propaganda concerning Milk and Dairy Products.
- Section V. Legislation and Control of Milk and Dairy Products.
- Section VI. Veterinary Problems concerning Milk.
- Section VII. Tropical Dairying.

These Sections were divided into from one to four sub-sections as appeared desirable to facilitate discussion on different subjects.

The papers prepared for submission to the Congress by scientific workers and others in different countries had been forwarded to the Executive Committee in Rome during the months preceding the Congress and had been allocated to their appropriate sections. The writers of papers, however, did not read their papers at the various sectional meetings. In this respect the procedure differed from that followed at previous Congresses and a brief outline of the method adopted appears desirable.

For each of the above-mentioned sections, or sub-sections, a general relator or reporter (*rapporteur*) had been appointed, who had received copies of most of the papers allotted to his section or sub-section some weeks before the Congress met. This general reporter was asked to prepare a summary of the contents of the papers sent to him, and this summary as presented to the section or sub-section by the general reporter, was intended to focus the discussion on the chief features in the papers. Writers of papers were permitted to amplify the summary, and other members could take part in the following discussion.

It was intended that a brief resume of the discussion was then to be given by the general reporter and that any resolutions arising from the discussion should be put to the section by the chairman, and if agreed to, be forwarded to the secretary for further consideration at the plenary closing meeting of the full Congress.

The official languages of the Congress were Italian, French, English and German, and at each meeting of a section, the speeches made or questions asked in one language, were at once translated

in condensed form by the official interpreter. This interpretation was on the whole very well done, but occupied much time.

The system of summarising the papers of each section no doubt has its advantages where the summaries are, in fact, summaries, where they are printed in the official languages of the Congress and circulated to members before the Congress opens and where the rules as to time allowed to speakers are reasonably adhered to.

The actual practice of the system showed room for much improvement. I had the privilege of acting as general reporter to Section 1 A and I read a summary of fifteen papers in some 35 minutes. The general relator for Section 1 B however, did not summarise the ten papers allotted to him but gave an hour's discourse on the general subject of the application of genetics to the improvement of dairy cattle and sheep. In some of the other sections the general reporter took even longer to present his views, with the result that a large proportion of those present at the beginning had ample time for liquid refreshment and a smoke before the interpreter began his very difficult task. Further, as translations of very few of the summaries were available for members of the Congress, a large number of the visitors were unable to follow intelligently the summary of the papers which had specially attracted their attention. It is probable that one of the chief causes of the failures to provide translations of papers and summaries was the almost complete lack of observance of the original timetable of dates fixed for the receipt of papers and transmission of papers to general reporters.

The meetings of the different sections of the Congress in Rome were continued on Tuesday and Wednesday, May 1st and 2nd. The morning meeting lasted from 9 a.m. to 12 noon and the afternoon meeting from 3 to 6 p.m. Visits were also arranged on these days and on May 3rd to the Rome Municipal Dairy, to warehouses for the ripening of Pecorino cheese, and to the land improvement works of the Maccarese and the Pontine Marshes and also to the Dairy Institute at Caserta, near Naples and to Naples itself.

On Friday, May 4th, the Congress moved from Rome to Milan, by way of Florence, allowing some six hours for sight-seeing at the latter city, and on May 5th meetings were resumed in Milan and the Congress closed on Sunday, May 6th, after a meeting at which sundry resolutions were proposed by representatives of different countries. Where these resolutions were of an academic nature there was no difficulty in obtaining general agreement, but where the resolution would in practice involve definite action bearing on trade practice, for example, as in the marking of packages of butter for export with the date of manufacture, agreement between

representatives of interested countries could not be obtained. In these discussions the British representatives as a rule were silent, recognising that the subjects were of little direct interest or that the action desired had already been taken in this country and that further speech on the subject was a waste of time. Where the supply of produce to the British markets was involved, however, the Dominion representatives expressed their views with fluency and precision.

I am of the opinion that British representatives should be prepared to take a more active and definite part in the formulation of recommendations at future International Congresses, in order that representatives of other nations may realise more fully the position gained by Britain in the production and manufacture of milk and dairy products.

The recommendations submitted by the different sections, and with few exceptions accepted at the final meeting of the Congress, are nevertheless of interest because they indicate the trend of thought amongst research workers and educational and administrative authorities on the continent and for this reason a summary of these are given below :—

SECTION II.—HYGIENE, CHEMISTRY AND BACTERIOLOGY OF MILK.

Conclusions :—

Production.—Sanitary milk production cannot be efficiently achieved without compulsory control at the place of production.

Transportation.—Transportation must be accomplished with all possible speed with the application of necessary precautionary measures to decrease contamination and spoilage of the milk. Low temperature is an aid to good keeping quality during transportation.

Pasteurisation.—Pasteurisation is a safeguard against the dangers which can grow out of the use of ordinary milk. Compulsory pasteurisation and bottled-milk distribution, present, according to the present position of our knowledge, the best achievable health guarantee which can be used in practice.

Distribution.—The supervision of milk sold in the streets must be strict and continuous. A suitable sanitary ordinance must regulate this matter at the place of the sale of milk.

Raw milk (Certified milk).—The production of raw milk requires watchful, strict control. Tuberculin testing of the dairy cattle should be supplemented with the leucocyte and serological investi-

gations in order to diminish the danger which can occur from latent mastitis and abortion. The putting in bottles must follow exclusively at the place of production.

Consumption.—The consumers must be taught by suitable advertising in order to make them acquainted with the precautionary measures connected with the use of milk in the home.

SECTION III.—INDUSTRIAL UTILISATION AND COMMERCE OF MILK AND DAIRY PRODUCTS.

The Congress, taking into account the world crisis in dairy production, industry and trade, recommends the following measures :

1. Limitation and if possible prohibition of the use of margarine or similar products as nutritive fat and the suppression of its use as raw material in the manufacture of butter, cheese, cream, etc.
2. Protection of markets supported by agreements between the different States to favour the trade in typical products.
3. Intensive propaganda in favour of milk and its by-products.

SECTION IV.—TEACHING, EXPERIMENTATION AND PROPAGANDA CONCERNING MILK AND DAIRY PRODUCTS.

This section wishes that the next Congress through its national relators should deal in particular with the problems of the co-ordination of experimental work in cheese, of the unification of the methods of research and study and of the teaching of the staff entrusted with research, and also expresses the hope that a special propaganda section will be created in the International Dairy Federation to obtain information on the methods employed and the results obtained in different countries and to circulate this information throughout the International Institute of Agriculture.

SECTION V.—LEGISLATION AND CONTROL OF MILK PRODUCTS.

This section approves of the proposal that at the next Dairy Congress, a special report be submitted containing—after a concrete study of the question—precise proposals for the uniform working of the services for Milk Recording. It also unanimously recommends that the Governments of the different countries adopt measures of control in order to prevent the manufacture and export of margarine butter and cheese.

SECTION VI.—VETERINARY PROBLEMS CONCERNING MILK.

The conclusions presented by this section are :

(a) *Infections of the udders and their influence on the hygienic value of nutritive milk and dairy products.*

The infections of the udders have a great influence on the production of milk from a hygienic as well as an economic point of view. It is consequently advisable that the necessary measures for rapidly diagnosing and efficiently combatting these infections be universally adopted.

It would be useful to increase the sanitary supervision of dairy cattle in order to detect these infections from the beginning as well as during the period of incubation.

(b) *The different forms of brucellosis and milk.*

The forms of brucellosis constitute a serious danger for health and are the cause of considerable economic losses.

They should therefore be combatted everywhere by the most efficient means taking into account the special conditions of the surroundings.

As brucellosis infection is already very widely spread in every country, it is indispensable that nutritive milk, when not pasteurised, should be boiled.

With regard to raw milk for consumption (certified milk), seeing that up to the present measures generally adopted only exclude from production infected cows, during the first stage of the disease, shown clinically by abortion, it is indispensable that this exclusion be also extended to all animals recognised as carriers of the brucella by means of appropriate experiments in diagnosis (sero-lacto agglutination, etc.).

For the production of raw milk, it would be necessary, in the case of brucellosis, to take similar measures to those adopted for tuberculosis in order to ensure certain and efficient hygienic conditions.

REVIEW OF SELECTED PAPERS

Over 200 papers were submitted to the different sections of the Congress. The great majority of these were written by workers in continental countries and dealt with subjects which have only an academic interest to those engaged in dairying in Britain. On the question of continental varieties of cheese and the problems which arise in their manufacture, many of the papers will no doubt be valuable sources of reference for many years. A brief survey of the papers, however, shows that in many countries the scientific workers have been engaged on problems which no longer puzzle the British milk producers or distributors. Many of the conclusions arrived at and recommendations given have been common knowledge here for many years, and are contained in the bulletins and leaflets issued by the Ministry of Agriculture and in articles published in our agricultural press.

A small proportion of the papers, however, did contain information of interest to dairy farmers and others in Britain and a concise summary of a number of these is included for the benefit of readers of this journal.

Silage—By Fermentation.—In Section I.A. special attention was given to silage and its effect on milk and milk products, and the main controversial point was the preservation of green fodder as silage by lactic acid fermentation and by the use of mineral acids without fermentation.

Professor Gorini (Italy) summarised the results of his research work on silage over a period of thirty years and stated that the success of silage as a food, where the milk is made into cheese, is always closely related to the bacterial content, and that the bad results complained of are connected with the dominance of harmful bacteria, causing butyric or putrifying fermentation. For practical purposes he defines two types of silage (1) *butyric silage*, of small nutritive value, and (2) *lactic silage*, of good nutritive value, beneficial to animals and suitable for the production of milk and milk products.

He stated that the conditions necessary for the preparation of lactic silage are (1) raising of the temperature of the fodder in the silo rapidly to 104—113° F. (never over 122° F.), (2) controlling the rise of temperature by adequate packing and pressure and (3) limiting the moisture content of the fodder by partial drying. In some cases, especially with fodder poor in sugar and natural lactic ferments, it is desirable to introduce lactic ferments; other suitable additions are common salt and sugar-containing materials such as molasses. He claimed that the making of lactic silage may practically be said to be an Italian discovery, and that all modern types of silos are designed to produce this product; further, that when

silage is made successfully, it is because the fermentation has been controlled and arrested at the lactic stage, and in this way a food is obtained which is satisfactory to the stock-rearer and also to the cheese-maker.

Gorini also emphasised that the method of manufacture of the silage is more important than the construction of the silo. Where the conditions stated above are complied with, good lactic silage can be made in silos ranging from the American type of tower silo to simple pits dug in the earth and with soil used to cover the silage.

Silage.—By Acids.—The preservation of green fodder in the form of silage by the use of mineral acids was described by Virtanen (Finland). He stated that he discovered that bacteria are incapable of detrimental action upon proteins under conditions showing a certain degree of acidity and he therefore carried out experiments with the addition to the green fodder of such amounts of acid as would give the required acidity. Only strong mineral acids were found to have this effect at an economic cost. The preservation of the silage is effected solely by the mineral acids which form salts with the basic constituents of the fodder. It is wholly independent of fermentation and is claimed therefore to be absolutely reliable.

Virtanen also stated that practical trials on a large scale showed that the acid treatment could be applied successfully on farms and that by 1929, silage was made by this method on 3,000 farms in Finland. He described the practical method and gave the amounts of hydrochloric or sulphuric acid required for stated weights of different fodders. The protein-rich fodders, such as lucerne, require twice the quantity of acid needed by protein-poor fodders such as kale and sugar beet tops. The loss in nutritive value is small, especially where the moisture content of the fodder is such that there is little or no drainage from the silo, and where the acid is quickly and thoroughly mixed with the fodder. The silage thus made has proved palatable and it was fed without bad effects to cattle in quantities up to 110—124 lb. daily. It is also rich in vitamin A and carotin and contains an abundant supply of vitamin C.

Silage—By Whey.—Golding (England) discussed the problem of profitable utilisation of whey in Great Britain and described experiments on the use of whey to control the fermentation of grass silage. The grass used was lawn mowings and it is claimed that the experiments show how two substances, which are often regarded as waste products, may be used for the production of a useful food for farm animals.

The silage retained much of the green colour of the original grass and was readily eaten by cows, young cattle and pigs. Pre-

liminary experiments indicated that the relative growth of pigs on a normal ration was slightly increased by the addition of $\frac{1}{2}$ lb. to $1\frac{1}{2}$ lb. of whey silage per head daily.

Arising out of these experiments, the use of whey to stimulate and control the making of lactic silage was investigated by Allen and Watson (England). In a series of experiments they used :—

- (1) dried whey inoculated with a suitable culture of lactic acid organisms,
- (2) a solution of dried whey inoculated with a culture,
- (3) a solution of dried whey without a culture, and
- (4) fresh whey inoculated with a culture.

In addition, silage was made with :—

- (5) mineral acid calculated to produce an acidity of pH_3 — pH_4 , and
- (6) a solution of molasses inoculated with a culture.

The silage was made in small cement silos, each one containing about 1 ton of grass of known digestibility and after $3\frac{1}{2}$ months the silos were emptied and their contents sampled and analysed. All silos had free drainage except No. 6, which had no provision for drainage. The whey in Nos. 1, 2 and 3 was added at the rate of 1 lb. of lactose per 100 lb. of green fodder ; in No. 5 a mixture of acids consisting principally of hydrochloric acid was used and in No. 6, 2 lb. molasses per 100 lb. fresh grass was used. The culture added to 1, 2, 4 and 6 was the same in all cases, being a mixed culture of *Lactobacillus acidophilus*, *Lactobacillus bulgaricus* and *Lactobacillus casei*.

At intervals over a period of two months, samples were extracted from each silo for bacteriological examination and the authors concluded that, with the exception of the acid-treated silage (No. 5), lactobacilli appear to be well in evidence and often predominant throughout the period of storage and that generally after a few weeks the numbers of other types of bacteria are negligible. They doubt whether any benefit was derived from the addition of the cultures, and add that, putrefactive bacteria if present at all, are only present in small numbers and are completely checked by the acid-forming bacilli. It is possible to add considerable quantities of whey, either dried or fresh, with or without cultures, and yet preserve the lactic acid flora of the silage. The composition, digestibility and nutritive value of the silages so made were satisfactory compared with those of the fresh grass. Similar results were obtained with molasses. The mineral acid treatment did not bring about the desired acidity.

All the silages made with whey were eaten readily by the sheep used in the digestibility trials as was also the silage made with molasses. The silage made with mineral acid was not tested for digestibility but it was eaten readily by cattle.

Silage—Food Value.—The specific influences of silage in the feeding of cows for milk production were discussed by Brouwer (Holland). He stated that it has often been asserted that silage must increase the yield of milk and of cheese to a greater extent than hard hay. Experiments in two successive years with two groups of 13 cows in which one group was given silage and the other hay made from the grass of the same field, in quantities which supplied as nearly as possible the same starch value, failed to confirm this assertion. No specific action on the milk yield nor on the percentage of butter fat could be attributed to the silage. In 1932-33 a comparison was made between two kinds of silage—one prepared on the stack system and one prepared by the addition of hydrochloric acid and sugar. The two groups of cows received amounts of silage of practically equivalent starch value. The results show that the cows receiving the silage made with mineral acid and a little sugar yielded slightly more milk but not more butter fat: the quantity of solids other than fat remained almost the same.

In these experiments the iodine value of the butter fat and the firmness of the butter was also noted. It was found that there was only a very slight difference between the silage and the hay, and between the stack silage and the mineral acid silage.

The carotin content of the butter was also studied and it was found that the milk from the cows receiving silage gave a butter containing four times as much carotin as the butter from the milk of the cows receiving hay. On the other hand, it was found that the butter made from the milk of the cows receiving the mineral acid silage had a lower carotin content than the butter made from the milk of the cows receiving the stack silage, but both kinds of silage may be regarded as good sources of vitamin A. Brouwer said he had not been able to demonstrate the presence of vitamin C in stack silage and doubted if the presence of this vitamin in fodder was of practical importance.

A further specific influence of silage is the disagreeable smell and taste which it often imparts to milk and milk products. This influence can be eliminated by giving the silage after milking and by other precautions.

Feeding Problems.—In Section IB. the papers were devoted mainly to some aspect of the nutrition of dairy cattle or to the effect of certain foods or points of management on the yield and composition of milk.

Milk Production Value.—Morris and Wright (Scotland) dealt with the important subject of the biological value for milk production of the proteins of a number of common foods. They stated that the efficiency with which a food protein will meet the requirements of any specific purpose, such as growth or milk secretion, will depend on the extent to which it is able to supply certain essential amino-acids in adequate quantities and correct proportions, and they explained that the term "biological value" was devised to indicate the efficiency in this respect of specific proteins or protein mixtures.

The experimental procedure which they adopted in their investigations was described and the method adopted to calculate the biological values of foods for milk production as contrasted with the values for maintenance or growth, was discussed in detail and tables were given showing the amino-acid content and the biological values of rations containing various concentrated foods.

The experiments described consisted of (1) a comparison of beans, linseed cake and meat meal and (2) a comparison of blood meal, decorticated earthnut cake, pea meal and a mixture of decorticated earthnut cake and maize. Marked differences were found between the biological values of these foods. Blood meal, pea meal and bean meal were found to be relatively efficient sources of protein for milk production, and earthnut cake, linseed cake and maize were found to be of definitely inferior quality when used for this purpose in the rations given in these experiments.

The above foods were chosen for experiment because of their differing lysine (and tryptophane) content, on the assumption that the amount of these amino-acids would constitute the limiting factors in the utilisation of the food proteins. The authors state that the results clearly demonstrate that lysine (and tryptophane) were, in fact, the limiting factors in the utilisation of the rations and indicate that a close approximation to the biological value of a food protein may be obtained by a determination of its amino-acid content.

Soya Bean Meal.—A paper by Poijarvi (Finland) dealt with the influence of soya bean meal in conjunction with other foods on the iodine value of butter. The iodine value was studied because it affords a measure of the consistency as butter possessing a good consistency is preferred on the world's butter markets.

The conditions of the experiment described in this paper are those which prevail on farms in Finland during the winter. Three groups, each of six cows, received a daily ration per head of 13 lb. hay, 11 lb. oat straw and 17—18 lb. potatoes, and in addition one group received oats and a mixture of concentrated foods of known composition another group received oats and a mixture of 40%

soya bean meal, 40% sunflower seed cake and 20% palmtree cake and the third group received oats and soya bean meal. These additional foods were given in quantities proportionate to the milk yield of the cows over a period of 150 days.

The results showed that the rations given to the first and second groups produced butter with an iodine value of 33.1 to 35.9 and that the ration given to the third group gave an iodine value averaging 31.6. This latter figure is considered most satisfactory and Poijarvi concludes that, under Finnish conditions, if cows receive only 2.2 lb. of soya meal daily, in addition to a ration of hay in abundance, oat straw, oats and potatoes, a butter of the desired iodine value is obtained.

Dried Grass v. Hay.—In recent years much attention has been paid to the drying of grass into hay by the use of hot air or gases and the paper by Bechdel and Borland (United States) dealt with feeding tests of artificially dried or dehydrated hays and naturally made or sun-cured hays from the same crop. The tests were twofold :—

- (1) practical feeding tests with dairy heifers and
- (2) a study of the relative anti-rachitic potency of the two hays as determined by blood and bone studies of calves from birth to six months of age, and by numerous rat feeding trials.

In the practical feeding tests with dairy heifers, dehydrated and sun-cured hays were given to evenly balanced groups of animals on an equal dry matter basis, in addition to an allowance of maize silage and a grain mixture. In the first winter the sun-cured hays gave the better results. This was attributed to the destruction of vitamin A in the process of dehydration of the other type of hay. The process involved the exposure of the green hay to blasts of very hot air. In the two succeeding winters the dehydrated hays were prepared through the action of hot gases direct from a furnace; these gases are practically free from oxygen and can be employed without the oxidation of carotene, the precursor of vitamin A. The gains in live weight obtained from the dehydrated hays obtained by this process were superior to those from the sun-cured hay in both seasons. The dehydrated hays were more palatable and possessed a much higher degree of green colour than the sun-cured hays. The latter in all cases were cured in 24 to 48 hours without rain, but the exposure to dew and sun caused considerable bleaching or reduction of the carotene content.

The studies on the anti-rachitic potency of the two types of hay showed that the calves receiving a small allowance of dehydrated hay developed definite symptoms of rickets while those receiving the sun-cured hay showed no such symptoms. The hays were also

assayed for vitamin D through rat feeding trials and a wide difference in anti-rachitic potency was clearly indicated. The authors stated that calves are highly susceptible to a deficiency of the anti-rachitic factor in the diet when confined indoors during the winter months with no exposure to direct sunlight. They added that if dehydration of hay should become widely adopted on American farms, the deficiency of the anti-rachitic factor may become a problem under certain conditions of feeding. They believed, however, that such problems will never be serious with cattle over one year of age, nor where the dehydrated hay is fed liberally. They concluded that the superior vitamin A potency of the dehydrated hays overbalances the deficiency in the anti-rachitic factor and that the dehydrated hays in general have a superior feeding value. They advocated dehydration as worthy of wide adoption when engineering investigations have lowered the costs of the process.

Feeding of Cows.—The influence of the times and frequency of feeding on the yield and composition of milk was discussed in a paper by Groh (Czechoslovakia). An experiment was conducted during the period of winter feeding in which one group of five cows was given its daily ration in three equal parts at 5 a.m., 11 a.m., and 5 p.m., and another similar group was given its daily ration in four equal parts at 5 a.m., 11 a.m., 5 p.m., and 11 p.m. All cows were milked twice daily at 5.30 a.m. and 5.30 p.m. Another experiment was conducted during summer conditions, in which the cows were grazing during the morning and afternoon, and a ration of green fodder and concentrated foods was given in similar proportions at the same hours as above.

The results showed that the change in the times and frequency of feeding had no appreciable effect on the yield of milk or on the fat and solids-other-than-fat content of the milk.

In a third experiment the daily ration was given in three equal parts as above to one group of cows and the other group received one quarter in the morning, one quarter at midday and one half in the evening. Again the results showed no appreciable difference in the quantity or quality of the milk yielded by the two groups.

The paper by Zaitschek (Hungary) dealt with the information obtained by the Milk Control Societies in Hungary mainly on the feeding of dairy herds during the three years 1929-32.

The data was collected each year from nearly 500 farms maintaining over 12,000 cows and it was found that the average period in milk was 307 days, the average milk yield was 768 gallons and the average fat content was 3.71 per cent.

For each winter period—November 1st to April 30th—the average weight of starch equivalent and digestible protein given daily to each cow was calculated. The minimum standard quantities recommended are for maintenance 5 lb. starch value and 0.5 lb. digestible protein per 1,000 lb. live weight and for production 2.5 lb. starch value and 0.55 lb. digestible protein per 10 lb. of milk. It was found that the daily winter ration only slightly exceeded the standard allowances. It was explained that this slight excess may be accounted for by the fact that the average allowances include liberal feeding of dry in-calf cows six weeks prior to calving. Zaitschek added that this feeding prior to calving had given very good results, especially with cows which had lost weight on the scanty summer pasturage, but it was necessary to modify the recommendations on some farms because the cows were too heavily fed and on others heifers were found to have great difficulty in calving owing to the calf being too large.

Details were given of the average weights of foods constituting the average daily ration, and the variation from the average in some districts due to large local supplies of certain foods was noted. It was stated that silage is made to a limited extent, chiefly in pits or ricks and the cold fermentation process is often used. There are, however, strict regulations regarding the use of silage when the milk is to be used in cheese manufacture and it is not used on farms producing special milk for human use.

It was suggested that experiments should be made in different countries with as many cows as possible to settle the following questions:—

- (1) What principles should control the composition and quantity of the fodder given to dry, in-calf cows for six to eight weeks before calving and to what extent should the fodder be reduced during the eight days before calving?
- (2) How much hay and straw may be included in the ration of milk cows without detriment to the milk yield?
- (3) What kinds of fodder have a bad effect on the flavour, odour and quality of the milk and what fodders should be avoided in the production of milk for children and for the manufacture into cheese?
- (4) Has silage made by the use of mineral acids a detrimental effect on the flavour, odour and bacterial content of milk as compared with silage made without chemical treatment?

A Poisonous Weed.—The paper by Buenger and Glet (Germany) dealt with the harmfulness of March Horsetail (*Equisetum palustre*) to dairy cattle. This weed is common in many meadows and pastures in Germany (also fairly common in Britain), and when

eaten by cows, causes a loss of appetite and weight, severe purging, rough coat, and great decrease in milk yield ; occasionally also there are signs of lameness.

Suggestions that the Marsh Horsetail is injurious because of high silicic acid content, the presence of a poisonous alkaloid or the bacterial flora on the surfaces of the plant have been investigated, but up to the present no definite results have been obtained.

Preventive measures to lessen the prevalence of the weed in pastures have been studied and it has been found that the green shoots which appear above ground are very sensitive to bruising. Repeated rolling by heavy rollers kills the shoots and leads to the exhaustion of the underground reserves. At the same time the growth of good pasture plants should be assisted by adequate drainage and good manuring.

Hay made from meadows in which this weed is prevalent is also injurious to stock, hence methods of making hay or silage which would render the fodder safe have been studied. It has been found that storage under cold fermentation conditions, or even up to a temperature of 113—122°F. does not destroy the harmful constituent, but if the fodder is harvested and stored in such a manner that a temperature of over 140°F. is maintained for at least eight days it may afterwards be given to stock without harmful results.

Solids-not-Fat Variations.—Bartlett (England) contributed a paper on some causes of variation in the solids-not-fat content of milk. In order to avoid the difficulty of interpreting percentages of solids-not-fat in milks with varying fat content, Bartlett stated the solids-not-fat content as a percentage of the fat-free milk. When this method of expression is used it was found that there was very little difference between samples of milk drawn after long and short intervals, and between the fore milk and the strippings. In this respect the solids-not-fat content is markedly different from the fat content. He also studied the variation throughout the lactation period and found that the percentage is high immediately after calving, but falls gradually for six to eight weeks ; it then remains fairly constant for several months, and as a rule rises somewhat towards the end of the lactation period. The percentage in late lactation, however, was found to be associated with pregnancy ; when cows have been in-calf for five months the solids-not-fat content increases thereafter, but in the case of farrow (not in-calf) cows the percentage continues to decrease slightly to the end of the lactation. The data studied by Bartlett also indicate that under normal South of England conditions the percentage of solids-not-fat is highest during the winter and lowest during the summer ; in dry summers the decrease during this period was greater than during

wet summers and he suggests that this decrease may be due to nutritional causes arising from the lack of succulent fodder.

Pasteurised Milk for Calves.—A report of an experiment on the rearing of calves on pasteurised milk was contributed by McCandish and Black (Scotland). All the calves were from the same herd and each calf was brought into the experiment after five or ten days on raw milk, including the period of colostrum feeding. They were divided into lots of three or four of each sex and ultimately there were 19 bull calves in five lots, and 16 heifer calves in five lots. After the 5 or 10 day period the calves were given the mixed milk of the herd, either raw or pasteurised. Pasteurisation was carried out by the holder method at 145° to 150° F. for 30 minutes followed by immediate cooling; the raw milk was given immediately after milking, while the pasteurised milk was heated to 96° F. before feeding. The milk was given at the rate of 1 lb. for each 10 lb. live weight until the calf reached 150 lb., from this point onwards the milk allowance was kept at 15 lb. per head daily. From three weeks of age onwards the calves were given all the hay they cared to eat and a cake and grain allowance composed of equal weights of whole maize, whole oats, broken linseed cake and wheat bran. The experimental period was 150 days for calves born in the winter and 120 days for those born in late spring and summer.

The calves as a whole kept in good health though some of those which had raw milk for only five days before going on to pasteurised milk suffered from scouring; the bull calves suffered more in this respect than the heifers. This difference between the bull and heifer calves was reflected in the live weight gains, and the bull calves receiving raw milk made better gains than those receiving pasteurised milk; on the other hand the heifers receiving pasteurised milk made somewhat greater gains than those receiving raw milk. It is also noted that the calves getting raw milk had sleeker coats than the others, many of which showed a rough staring coat for the greater portion of the experimental period.

It is suggested that the minimum length of time during which calves should receive their mother's milk is not definitely known as yet, but apparently in the case of bull calves a longer period than five days may be helpful in the prevention of disease.

Methods of Pasteurisation.—The subject of high-temperature short-time pasteurisation of milk was dealt with by Mattick (England). The efficiency of properly constructed and well run holder pasteurisers heating milk to 145° F. for 30 minutes is now generally recognised, but recently attention has been directed towards securing similar results by apparatus and methods more economical of space and time. Experiments had been carried out

with a plant capable of heating milk to a temperature of 160° F. for about 20 seconds and while good results were obtained bacteriologically without injuring the cream line, the margin of safety was insufficient to guarantee that under all conditions the pasteurised milk will comply with the bacteriological standards. It is suggested that a holding period of some minutes at a somewhat lower temperature, following a preliminary momentary heating to 160° F would act as an additional safeguard.

Clean Milk Production.—The methods which have been adopted in this country to encourage and advise the dairy farmer in the production of clean milk were described in a paper by Blackshaw (England), and the subject was discussed on more general grounds in a paper by Gorini (Italy). The latter authority concludes that the movement for the hygienic production of milk should aim at the production of clean and safe milk for all purposes and that there are three ways by which this object may be attained :—(1) by education, (2) by legislation and (3) by economic inducement.

In discussing these Gorini says that education must be regarded as the principal method as it paves the way for the other two methods, to which it is a necessary prelude. It would be useless and dangerous to trust, or to endeavour to force, uneducated people fully or sincerely to observe regulations. He adds that to develop the required "hygienic conscience" the educational road is long and tiring and it is necessary to employ the most effective methods to shorten, not the road itself, but the time taken to traverse it. For this purpose, legislation and economic stimulus are available; these should run parallel with education but not to be used in substitution therefor.

Gorini summarises the mode of development in the following motto :—

Very strong in education.
Very slow in regulation.

IMPRESSIONS OF ITALY

By SIDNEY EDWARDS.

The party from Great Britain (numbering about 100) proceeding to the Tenth International Dairy Congress held at Rome and Milan, left Victoria Station on Saturday, April 28th, at 1.50 p.m. *via* Dover and Calais.

The Channel was crossed in due course, and we had a very pleasant sea passage, having passed through the French Customs we boarded the waiting train for Paris where we changed into a train leaving at 10.25 p.m. for Milan. The sleeping arrangements were excellent, and at dawn on Sunday the 29th April, the train was passing through Switzerland and in a short time we crossed the frontier into Northern Italy, a country of high, snow-capped mountains and fertile valleys that appeared to be highly cultivated. The idea seemed to be to grow a crop on the ground, grass or cereal, and also vines trained from trees, that appeared to have been planted for that purpose. It was noticeable that any low hills were cultivated to the summit by manual labour. In our own country we should use them as sheep runs, as cultivation would not be an economic proposition.

At one part of the journey, the train ran alongside Lake Maggiore which looked beautiful with the residences in the centre, thence through the fertile plain of Lombardy to Milan with its magnificent railway station.

The railway track in the vicinity of the town was guarded by armed troops. Milan was reached in good time; our train was due to arrive at 12.55 p.m., and after changing into the train for Rome, we departed from Milan at 2.10 p.m., arriving at Rome at 10.45 p.m. on Sunday, 29th April. It was remarkable that though our party were travelling through the country in which the Dairy Congress was to be held, dairy cows were not seen during our journey to Rome. The only cattle in evidence were draught oxen, which could be seen at work carting green fodder, and in a few instances were ploughing.

On Monday members of the Congress were busy getting their badges and papers, prior to proceeding to the Capitol for the inauguration of the Congress by Signor Mussolini, Chief of the Government. Proceeding from their respective hotels to the

Capitol, visitors had an opportunity of seeing the splendour and magnificence of modern Rome and brought to mind the old Italian adage, "Rome was not built in a day." Marvellous architecture, imposing and palatial buildings and ornamental fountains, left no doubt as to the ability of the Italians as builders and architects.

At no great distance from the Capitol could be seen the ruins of a former civilisation: the Palatine Hill, the Forum of Caesar, the Forum of Augustus, the Theatre of Marcellus and other ancient buildings that were used when Rome was the capital of the world.

During the afternoon from 3 p.m. to 6 p.m. the work of the Sections began and continued on Tuesday and Wednesday.

Delegates took the opportunity to visit the Municipal Dairy Factory, the Land Improvement works of the Pontine Marshes, and the many excursions arranged for the benefit of members of the Congress in the vicinity of Rome on Tuesday and Wednesday.

A large party journeyed to Naples on Thursday, where the Milk Centre, museums and cathedral were visited. Later in the day proceeding by motor coach to Pompeii (*via* the autostrade) and visiting the excavations. The autostrade is a new road reserved solely for motor traffic, users paying a motor road tax.

Some 20 to 25 miles from Rome on the journey to Naples, the railway passed through a large pastoral tract, cattle and horses were seen turned out to grass, and flocks of sheep were noticed. The cattle were chiefly of the Brown Swiss breed. The horses, a light hunter type, many of them brood mares with foals at foot, and a sprinkling of mules.

Some miles from Naples another tract of pasture was passed through. A drove of about 150 horses were noticed, and cattle grazing on what appeared to be fattening pasture. The cattle in this case were of a similar colour to our Red Polls. Nearer the town the land was cultivated intensively. Potatoes were being lifted in large quantities.

The town of Naples is built on a hillside overlooking the Bay, very similar to any other busy seaport town. A wide street or promenade at the foot of the hill with good houses and large hotels facing the Bay. Vesuvius could be seen in the distance emitting clouds of smoke every few minutes.

Early on Friday members of the Congress entrained for Milan, breaking the journey at Florence for lunch and sightseeing, arriving at Milan at midnight.

The sittings of the Congress were resumed on Saturday in the Castello Gforzesco, and in the evening a visit was paid to the Milk Centre. The plant at the Milk Centre was installed by the Aluminium Plant and Vessel Co., for the Milk Syndicate, and was brought into

operation on 1st January, 1930. The Syndicate claim they provide work for 1,000 people in the collection, treating and distribution, including the manufacture of the bottles required for the distribution of milk from producers owning 32,000 cows.

On Sunday morning the Congress was resumed for the final resolutions and terminated before noon.

On Monday, May 7th, many members of the Congress took advantage of an excursion to Lodi, visiting the Experimental Cheese-making Institute and the Cheese Factories in Lodi of Polenghi Lombardo. After visiting the Cheese Factory and seeing the quantity of cheese being seasoned, a person could better understand Italy's claim to being the world's largest cheese producer, and to rank fourth in the list of cheese exporting countries.

Later on we were taken to the Cheese Establishment and Agricultural Institute of the Egidio Galbaini Society.

The Institute had a herd of 100 Imported Brown Swiss Dairy cows, in a modern cow shed. The herd was housed day and night and the milk pasteurized on the premises for the liquid market. For the cheese making operations milk was purchased from surrounding farms and it was evident that cheese making was carried out on a large scale. It is the custom to house dairy cows and cart green food to them indoors, doubtless that was the explanation for the absence of dairy cows at pasture on the journey to Rome.

A mile or so away we saw a pig farm, some 100 breeding sows, the majority with good litters (8, 9 and 10 thriving youngsters). Each sow having a cot and a wired run. We assumed the Pig Farm was in connection with the Agricultural Institute, the Institute having facilities to deal with a few hundred porkers.

Another farm visited had 200 head of Brown Swiss cattle tied up, the cows were tied at one end of the shed and the calves and heifers at the other end. Cheese was made from the milk produced. It would appear that the male calves are fattened for veal, as steers were not seen. The draught oxen were of a different breed ; white with black noses.

The excursion ended with a visit to a crude milk farm, a farm where the milk was water cooled. At this farm a dozen or so Friesian cows were included in the herd, the remaining portion being Brown Swiss cows. It was noticeable that the Friesians carried better bags and were not in such high condition as the Swiss cows. In this case the herd numbered about 100 head.

Silos were in use at the farms visited. Haymaking was in progress, and mowing was done in most cases by the scythe. Three and four cuts of grass are obtained yearly on the Lombardy plains.

On Tuesday, May 8th, a visit was made to the Milk Centre at Mouza and an Agricultural Establishment connected therewith, thence to Como, Cadenabbia and Villa Carlotta, returning to Milan at 9.15 p.m.

In the neighbourhood of Milan the soil was fertile, a genial climate and irrigation extensively practised. Here and there were seen rice fields covered with a few inches of water. It was noticeable that labour was plentiful and little use made of agricultural implements. The roads and motor coaches were excellent. Trains comfortable and punctual, and an air of prosperity over town and country.

After a strenuous time owing to the heat and long days, the train was boarded at Milan at midnight on Tuesday, arriving back at Victoria Station at 11 p.m. on Wednesday.

INTERNATIONAL DAIRY FEDERATION

By T. J. DRAKELEY, D.Sc., Ph.D., F.I.C., F.C.S., F.I.R.I.

The Permanent Bureau of the International Dairy Federation met on Saturday, 28th April, 1934, at the International Institute of Agriculture in Rome, and received the reports from its various Committees. Some of these reports are dealt with in detail in the subsequent pages; other reports which were accepted and which deal mainly with the international standardisation of methods of analysis call for no special comment and thus will only be mentioned.

Condensed Milk.—The Bureau accepted the Committee's recommendation that the minimum composition in all official regulations in all countries for sweetened and unsweetened full cream condensed milk should be

Fat 9.0 per cent.

Total Milk Solids ... 31.0 „ „

and that to indicate the contents of the container it should bear the words "The contents are equivalent of whole milk."

Various countries have different minimum standards and some countries no regulations, but to facilitate international trade, a uniform practice should be adopted.

It may be observed that the above suggestions are already in operation in this country under the Public Health (Condensed Milk) Regulations whereby both sweetened and unsweetened condensed milk shall contain not less than 9 per cent. of fat and 31 per cent. of milk solids and the container shall state: "This tin contains the equivalent of pints of milk."

The Analysis of Condensed Milk.—The International Dairy Federation has published a pamphlet on "The Analysis of Condensed Milk," which contains details of the official methods recommended for international adoption. The analytical methods are those already recommended by the "Society of Public Analysts" and published in the *Analyst* (1927, 52, 402; 1930, 55, 111; 1932, 57, 630), and the English text of the pamphlet issued by the International Dairy Federation consists of excerpts from these three reports.

Marking Butter.—A report on "The Systems of Marking Butter intended for Export and the Desirability of some International Agreement in this Respect" was written by Mr. Miles de Wachenfelt

(Sweden), and was published in the Bulletin of the International Dairy Federation (1932, 2, 55). The report deals with (a) national marks regarding origin, quality and state control, (b) descriptions of kind of butter, (c) name and number of producing dairy, (d) name, number, or trade mark of exporting firm or association, (e) date of production, (f) date of passing state control, (g) indication of net weight. The report is of particular interest to this country as a great importing nation and should be read by all. It is too detailed and important to be adequately described in a short paragraph of this nature, but attention should be directed to certain aspects which were discussed at the final meeting of the World's Tenth Dairy Congress on 6th May, 1934, at Milan. It was agreed that butter should be clearly marked, although a standard method for every country was not likely to prove acceptable. Considerable difference of opinion existed on the question of marking the date of manufacture. In certain countries this is already done, but in others no indication is given, and eventually no decision on this point could be reached.

Hygienic Production of Milk.—The Committee dealing with this problem was set up in 1928, and laws, largely as a result of the Committee's work have been promulgated. In Austria, Belgium, Denmark, England, Germany, Holland, Italy and Sweden dairy legislation on this matter exists. From the preliminary study it was concluded that the hygienic production of milk, whether for human consumption or for manufacture, did not necessarily involve expensive model farms and dairies, and the meritorious results recorded in this country without undue expenditure were quoted. It was nevertheless felt that the hygienic production of milk which would contribute so materially to the general health could be best promoted through intensive educational influences rather than by rigid legislation; undoubtedly an economic stimulus would assist. The study of this problem is being continued.

INTERNATIONAL CHEESE COMMITTEE.

This Committee, of which Dr. A. J. Swaving (Netherland) is the President, was set up by the Permanent Bureau of the International Dairy Federation to investigate questions which arose in connection with cheese. The third meeting of the Committee was held in Rome on Friday, 27th April, 1934, when the production of processed cheese and of cheese containing less than 40% of fat in the dry material was discussed.

Cheese containing Less than 40% of Fat in the Dry Material.

The meeting of the Permanent Bureau in Milan on 28th April 1933, received the recommendation of the International Cheese

Committee on the question of the partial and voluntary suppression of the production of cheese containing less than 40% of fat in the dry material and passed a resolution to the effect that:—

“The Permanent Bureau noted the opinion of the International Cheese Committee that it is impossible to abandon the production of cheese made from milk which has been more or less skimmed, but that the Bureau resolved to ask the National Committees representing each country to do all that was possible to secure the voluntary cessation of the manufacture of cheeses of lower fat content than 40% in the dry material, except in those cases where the cheese was normally made from more or less skimmed milk.”

At the third meeting of the Cheese Committee, in Rome on 28th April, 1934, the matter was further discussed and it was felt that the matter was too delicate and complicated to be solved by an immediate decision. It was therefore decided to ask the National Committees to submit their opinion on this problem.

The British Dairy Farmers' Association (as the National Committee for Great Britain) replied on 12th December, 1934, to the effect that—

- (1) It is of opinion that the suppression of the manufacture of all cheese containing less than 40% of fat in the dry material is quite impracticable in Great Britain. There are certain types of cheese (*e.g.*, Dorset) which are customarily made from partly skimmed milk, and to attempt to secure the prohibition of their manufacture would seem an extremely injudicious and doubtful procedure. On the other hand, if these types were not suppressed, then any cheese containing less than 40% of fat in the dry material might be claimed to be one of the types excluded from the ruling. No action on the lines of suppression could be recommended for Great Britain.
- (2) The position with regard to the well-known varieties of cheese such as Cheddar, Cheshire, etc., is becoming steadily more clearly defined. It is now being accepted at law in Great Britain that Cheddar and Cheshire Cheeses are cheeses produced from whole milk. Anyone, therefore, selling cheeses purporting to belong to these types and yet containing a fat percentage which would indicate its manufacture from partly skimmed milk, is liable to prosecution under the “Sale of Food and Drugs Acts.” It is held that the person has sold to the prejudice of the purchaser an article of food which is not of the nature, substance, and quality of the article demanded by the purchaser and he is liable to a penalty not exceeding £20.

Recently a conviction was recorded where cheese sold as Cheshire Cheese and containing 34% of fat in the dry material was ruled not to be of the nature, substance and quality of Cheshire Cheese.

In Great Britain it seems that ample provision is made in the "Sale of Food and Drugs Acts" to deal with the sale of cheese of low fat content if it were of the type (e.g., Cheddar, Cheshire) customarily accepted as being made from whole milk.

Processed Cheese.

The International Cheese Committee at their meeting on 27th April in Rome also considered the advisability of preparing draft regulations for international commerce in processed cheese, and it was agreed that a questionnaire should be prepared.

The questionnaire, prepared by Dr. A. J. Swaving, Prof. E. Nottbohm (Hamburg) and Prof. Dr. O. Laxa (Prahá) has now been submitted and is appended together with the suggested replies which the British Dairy Farmers' Association (as the National Committee for Great Britain) should make.

- (1) *Should each package of processed cheese (often containing admixed salts) bear near to the name of the country of origin, the words indicating that it contains "processed cheese," or "fromage fondu," or "Schmelzkäse," etc.?*

It is doubtful whether the addition of the word "processed" is necessary. The packages are commonly accepted as containing processed cheese. The word "processed" on the package might be believed to indicate something analogous to a substitute for cheese. If other countries adopted the scheme of marking, Great Britain might agree, but some lengthy notice would be required before it was put into effect.

- (2) *Should processed cheese bearing the name of a special kind of cheese be necessarily made only of that cheese? If so, how should the guarantee thereof be given? Should the fat content be indicated?*

It is suggested that if a "processed Cheese" is sold as processed Cheddar Cheese, it would be presumed under the Sale of Food and Drugs Act of Great Britain to be made wholly from Cheddar Cheese (with the necessary admixture of salts to render the manufacture possible). Any infringement would render the manufacturer and seller liable to prosecution. It is difficult to see how any guarantee could be given on the package. If the cheese was associated with the name of a well-known type of cheese, that itself would be the form of guarantee that the manufacturer was employing that particular cheese and no other in the preparation of the "processed cheese."

Possibly some manufacturers of "processed cheese" might wish to add a guarantee on the label of the package.

The indication of the fat percentage for sale of cheese in Great Britain is not legally required, as no statutory standards have been adopted for ordinary cheese, and so for "processed cheese," such an indication could not yet be required. If, however, the fat percentage in the dry material were such as to suggest that the sale was to the prejudice of the purchaser, as the article was "not of the nature, substance and quality of the article demanded by such purchaser," then the seller is liable under the "Sale of Food and Drugs Acts."

Incidentally, it is probable from a legal point of view that if a purchaser in Great Britain asked for Cheddar Cheese and was served with processed Cheddar Cheese, containing, for instance, sodium citrate, the seller is guilty of an offence unless the label distinctly stated that the article contain the admixed ingredient. (Section 8, Sale of Food and Drugs Acts).

- (3) *Should limits for the percentage of fat, water, or other substances be prescribed?*

In Great Britain, there are no statutory standards for cheese and until these are adopted, it would not appear feasible to fix limits for processed cheese.

- (4) *What additions of agents should be forbidden?*

In the manufacture of processed cheese in Great Britain, it is customary to add certain salts (such as sodium citrate, or sodium phosphate) to facilitate the manufacture, and so long as these salts are non-injurious the laws of Great Britain are not contravened.

Where, however, any matter or ingredient, even if required in the manufacture, is injurious to health, or where the addition to the food is to conceal the inferior quality thereof, the seller is guilty of an offence against the law.

The addition of agents, as far as the law of Great Britain is concerned, can be prohibited in cases where the addition is injurious to health. At present under the Public Health (Preservatives, etc., in Food) Regulations, the addition of the following colouring matters to any food is prohibited.

Colouring matters containing any of the following metals:—
Antimony, Arsenic, Cadmium, Chromium, Copper,
Mercury, Lead, Zinc.

The vegetable colouring matter gamboge.

Coal Tar Colours, picric acid, Victoria Yellow, Naphthol Yellow, Aurantis, Aurine.

Other matters which the Permanent Bureau has referred to Committees concerned (a) the manufacture, chemical analysis and bacteriological examination of milk powders, (b) the purification of residual liquors from milk industries, (c) problems arising in tropical districts, (d) the international standardisation of methods of analysis and of taking samples of cheese, etc.

MEMBERS OF THE PERMANENT BUREAU OF THE INTERNATIONAL DAIRY FEDERATION (1934).

President :

J. Maenhaut, Lemberge-lez-Gand.

Vice-President :

F. E. Posthuma, The Hague.

Members :

ARGENTINE : Rufinos Luro.

AUSTRIA : Willibald Winkler, Franz Hoffmann.

BELGIUM : Paul De Vuyst, G. Mullie.

CANADA : F. J. Singleton.

CZECHOSLOVAKIA : Otakar Laxa.

DENMARK : S. Overguard, S. Orla Jensen.

ESTONIA : Rudolf Allmann, Leo Anderson.

FINLAND : Hjalmar Goos.

FRANCE : Paul Mercier.

GERMANY : H. C. Fehr.

GREAT BRITAIN : T. J. Drakeley, J. Gillard Stapleton.

HUNGARY : P. von Tolnay.

IRELAND : Ward Morris.

ITALY : Costantino Gorini, Angelo Ferrari, Leonardo Grassi.

JAPAN : Masayoshi Sato.

LATVIA : Ludvis Seja, Emil Zolmanis.

LITHUANIA : Jonas Glemza, Stasys Baltramijunas.

LUXEMBURG (Grand Duchy) : Grosbusch.

NETHERLANDS : F. E. Posthuma, A. J. Swaving, G. J. Blink.

NORWAY : M. Mork.

PORTUGAL : Artur de Figueiroa Rego.

SPAIN : Antonio Santa Cruz.

RUMANIA : Jonescu Gh. Braila, Costantinescu R. Gh. Manoliu Dumitra.

SWEDEN : Christian Barthel, De Wachenfelt.

SWITZERLAND : R. Burri.

Secretaries :

Guy Moussu, Paris.

E. Hegh, Uccle lez-Bruxelles.

ROYAL RECEPTION.

The members of the Permanent Bureau and the delegates from the various Governments and their wives were graciously honoured by a personal reception and presentation to H.M. King Victor Emanuel III. and the Queen of Italy, at the Royal Palace in Rome on Thursday, 3rd May, 1934.

DINNER.

On Saturday, 28th April, 1934, the members of the Permanent Bureau were kindly entertained to dinner by the members of the Italian Committee at the Ambassadors Hotel, Rome.

Dr. T. J. Drakeley attended the meetings of the Permanent Bureau and also of the World's Tenth Dairy Congress.

Special Note to Members.—Any member desiring to give information, or to comment on any of the reports of the International Dairy Federation or to raise any problem for the Federation's consideration should communicate with the Secretary, The British Dairy Farmers' Association, 28, Russell Square, London, W.C.1.

RECORDS OF TYPE, SIZE AND PRODUCTION OF REPRESENTATIVE ANIMALS AT THE LONDON DAIRY SHOW, 1934

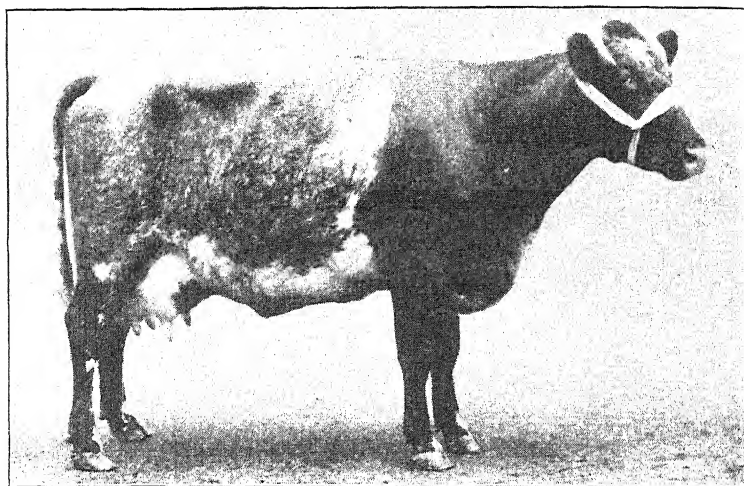
By

SIR J. Q. LAMB, M.P., S. BARTLETT, M.C., B.Sc. and W. F. JESSOP.

At the London Dairy Show, 1928, a set of records was collected comprising photographs, measurements and records of production of the first prizewinners in each of the mature cow classes. These records together with the principal objects and methods of taking the photographs, measurements, etc., were published in this Journal, Vol. XLI., pp. 123 to 148. Subsequently the same procedure has been adopted at each London Dairy Show and the records published yearly.

The following pages show photographs, measurements and all available records of production of 22 animals of 12 different breeds.

In addition to the records published here the Association preserves the information in a rather more complete and permanent form in albums prepared each year. These albums contain two original photographs (right and left side) together with records of identification, breeding, production and size.



“FOTHERING WATER BABY.” Catalogue number 3.

Exhibited in Class 1 (for Pedigree Dairy Shorthorn Cows born on or previous to August 1st, 1929).

British Dairy Farmers' Association official photograph taken on October 24th 1934.

Born 4th October 1927 Age when photographed 7 years 1 month.

Prizes won at the London Dairy Show, 1934.—First Milking Trial, Desborough Cup. One of the group winning the Bledisloe Challenge Trophy.

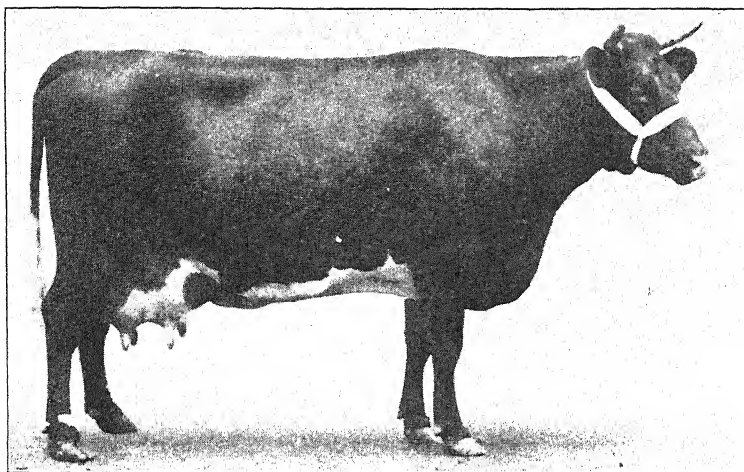
Owner and Breeder.—C. J. Allday, Esq.

Details of thirteen body measurements given on page 108.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Sucked a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield of Fat.
1	15 May, 1930 ...	4	580	90	lbs. 12,884½	—	—	lbs. —
2	19 Mar., 1932 ...	4	312	70	12,009½	5	3.84	461
3	9 Apr., 1933 ...	4	451	75	13,114½	6	3.34	438
*4	21 Sept., 1934 ...	4	—	—	—	—	—	—

*Record incomplete for 4th lactation.



"KENTISH HONEY JEAN." Catalogue number 7.

Exhibited in Class 1 (for pedigree Dairy Shorthorn Cows born on or previous to August 1st, 1929).

British Dairy Farmers' Association official photograph taken on October 24th, 1934.

Born 28th February, 1927. Age when photographed, 7 years 8 months.

Prizes won at the London Dairy Show, 1934—First Inspection, Extra Inspection, Calvert Cup, Third Milking Trial. One of the group winning the Bledisloe Challenge Trophy.

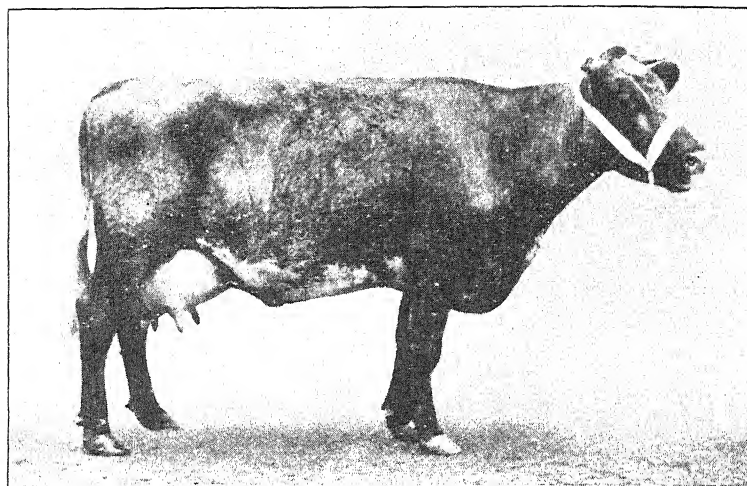
Owners and Breeders, Messrs. J. W. Smith and Son.

Details of thirteen body measurements given on page 108.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNERS AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield of Fat.
1	16 Jan., 1930 ...	12	288	81	lbs. 5,981	—	—	—
2	1 Feb., 1931 ...	10	378	56	14,507½	—	—	—
3	20 Apr., 1932 ...	7	347	76	19,314½	—	—	—
4	24 June, 1933 ...	7	295	65	19,750½	—	—	—
*5	26 June, 1934 ...	4	—	—	—	—	—	—

*Record incomplete for 5th lactation.



"FANNY." Catalogue number 80.

Exhibited in Class 4 (for non-pedigree Dairy Shorthorn Cows).

British Dairy Farmers' Association official photograph, taken on October 24th, 1934.

Date of Birth and Age when photographed unknown.

Prizes won at the London Dairy Show, 1934.—First Milking Trial. One of the group winning the Bledisloe Challenge Trophy.

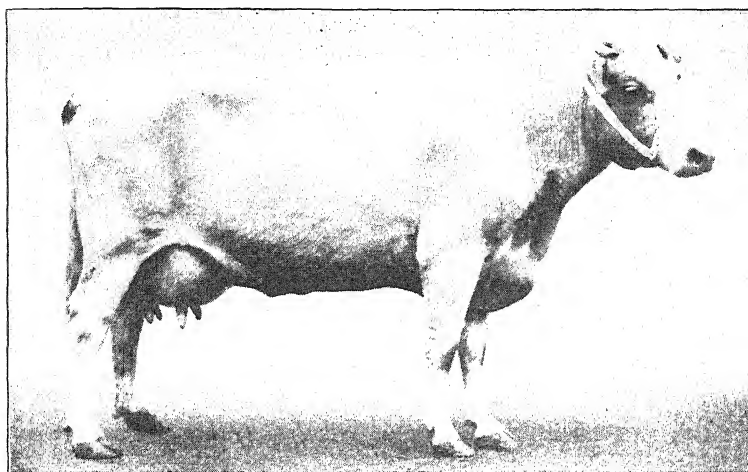
Owner, B. P. Stockley, Esq. *Breeder*, Unknown.

Details of thirteen body measurements given on page 108.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield of Fat.
1	31 Oct., 1929 ...	4	314	55	lbs. 10,326½	Not tested.	do.	lbs.
2	8 Nov., 1930 ...	4	270	44	11,588		do.	
3	22 Sept., 1931 ...	4	281	73	12,820½		do.	
4	14 Sept., 1932 ...	4	308	54	15,080½		do.	
5	15 Sept., 1933 ...	4	285	82	15,992½		do.	
*6	17 Sept., 1934 ...	—	—	—	—	—	—	—

*Record incomplete for 6th lactation.



"SNOWBALL." Catalogue number 82.

Exhibited in Class 4 (for non-pedigree Dairy Shorthorn Cows).

British Dairy Farmers' Association official photograph taken on October 24th, 1934.

Born December, 1926. Age when photographed, 7 years 10 months.

Prizes won at the London Dairy Show, 1934.—First Inspection, Extra Inspection, Second Milking Trial, Shorthorn Prizes £25 and £10. One of the group winning the Bledisloe Challenge Trophy.

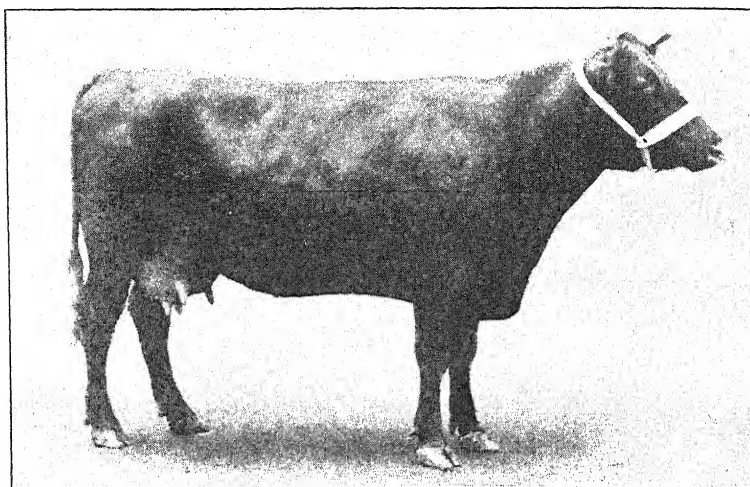
Owner and Breeder, T. B. Bucknell, Esq.

Details of thirteen body measurements given on page 108.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield of Fat.
1	22 Dec., 1929 ...	4	299	62	lbs. 6,924½	Not	tested.	lbs.
2	23 Dec., 1930 ...	4	235	73	7,355		do.	
3	31 Oct., 1931 ...	4	288	60	10,421		do.	
4	18 Oct., 1932 ...	4	266	78	11,019½		do.	
5	1 Oct., 1933 ...	4	283	65	15,278½	No	regular	tests.
*6	18 Sept., 1934 ...	4	—	—	—		—	

*Record incomplete for 6th lactation.



"BENDISH SUNBEAM 12TH." Catalogue number 103.

Exhibited in Class 6 (for Lincoln Red Shorthorn Cows).

British Dairy Farmers' Association official photograph, taken on October 24th, 1934.

Born 5th May, 1930. Age when photographed, 4 years 5 months.

Prizes won at the *London Dairy Show, 1934*.—First Inspection, Second Milking Trial.

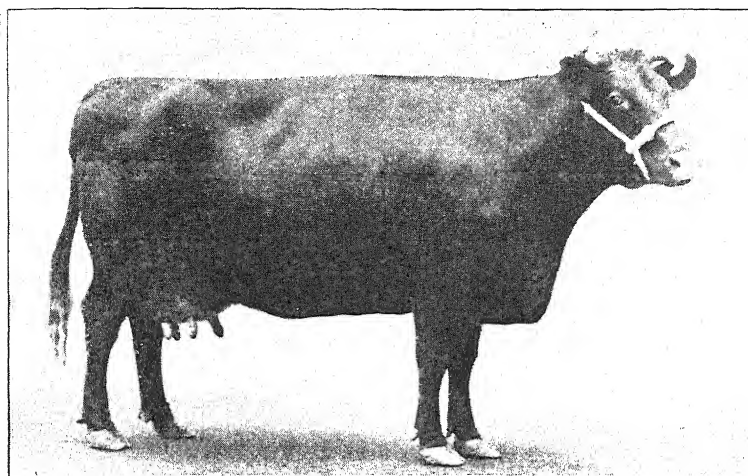
Owner and Breeder, F. Russell Wood, Esq.

Details of thirteen body measurements given on page 108.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED
BY OWNER AND MILK RECORDING SOCIETIES.)

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield of Fat.
1	20 Aug., 1933 ...	4	338	44	lbs. 8,151½	6	3.37	lbs. 275
*2	11 Sept., 1934 ...	—	—	—	—	—	—	—

*Record incomplete for 2nd lactation.



“BENDISH POPPY 9TH.” Catalogue number 104.

Exhibited in Class 6 (for Lincoln Red Shorthorn Cows).

British Dairy Farmers' Association official photograph, taken on October 24th, 1934.

Born 28th February, 1925. Age when photographed, 9 years 8 months.

Prizes won at the London Dairy Show, 1934.—Second Inspection, Extra Inspection, First Milking Trial, First Butter Test.

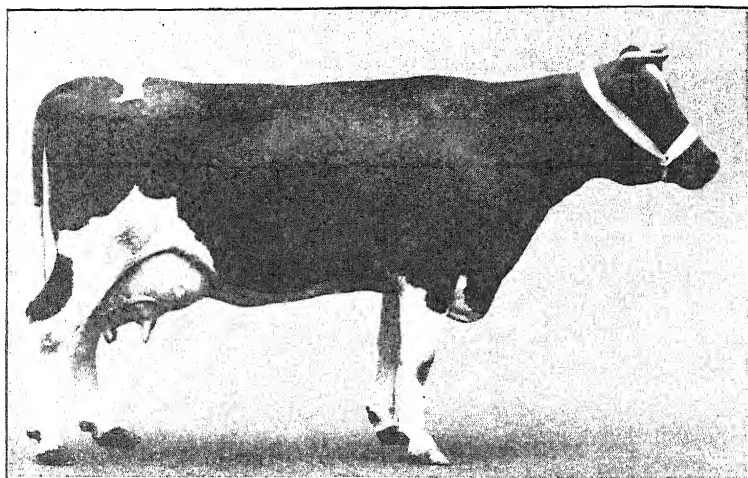
Owner.—F. Sainsbury, Esq. Breeder.—F. Russell Wood, Esq.

Details of thirteen body measurements given on page 108

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield of Fat.
2	5 Nov., 1928 ...	—	—	—	lbs. 9,515½	—	—	lbs. —
3	24 Jan., 1930 ...	4	257	142	5,658½	—	—	—
4	3 Mar., 1931 ...	4	288	88	8,141½	—	—	—
5	17 Mar., 1932 ...	4	326	47	10,524	—	—	—
6	29 Mar., 1933 ...	4	336	74	12,736½	insufficient	tests to	average.
*7	17 May, 1934 ...	4	—	—	—	—	—	—

*Record incomplete for 7th lactation.



"TERLING PROFIT 9TH." Catalogue number 120.

Exhibited in Class 8 for British Friesian Cows born on or previous to 1st August, 1929).

British Dairy Farmers' Association official photograph taken on October 24th, 1934.

Born 2nd July, 1927. Age when photographed, 7 years 5 months.

Prizes won at the London Dairy Show, 1934.—First Inspection, Extra Inspection.

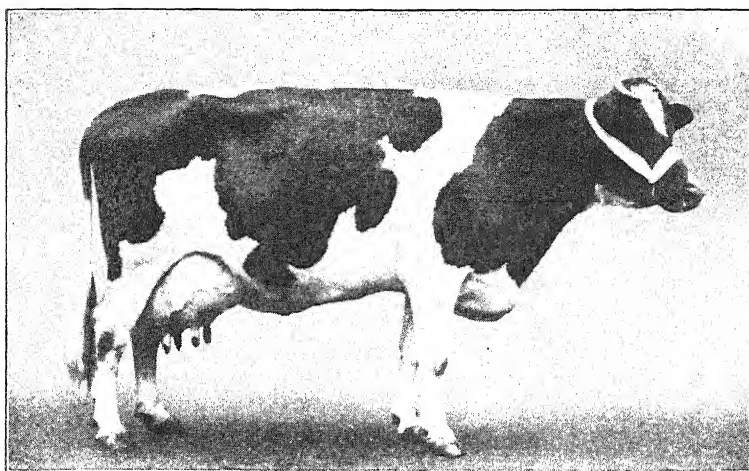
Owner and Breeder, Lord Rayleigh.

Details of thirteen body measurements given on page 108.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield of Fat.
1	2 July, 1930 ...	4	545	122	lbs. 9,094½	12	3.65	lbs. 332
2	5 May, 1932 ...	4	307	71	13,700	6	3.56	488
3	22 May, 1933 ...	4	352	99	15,847½	6	3.28	520
*4	20 Aug., 1934 ...	4	—	—	—	—	—	—

*Record incomplete for 4th lactation.



‘ OAKHAM DAINTY.’ Catalogue number 132.

Exhibited in Class 8 (for British Friesian cows born on or previous to 1st August, 1929).

British Dairy Farmers' Association official photograph, taken on October 24th, 1934.

Born 20th April, 1927. Age when photographed 7 years 6 months.

Prizes won at the London Dairy Show, 1934.—Third Inspection, First Milking Trial, Second Butter Test, British Dairy Farmers' Association's Supreme Individual Championship Challenge Trophy, Barham, Spencer and Shirley Challenge Cups.

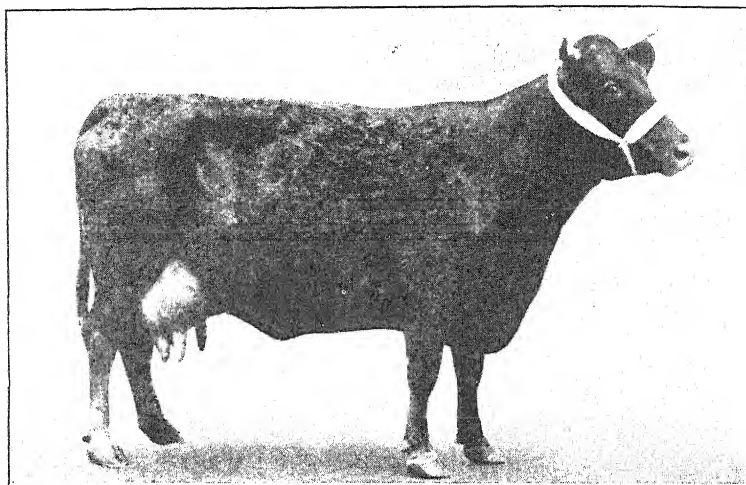
Owner and Breeder, Cecil Ball Esq.

Details of thirteen body measurements given on page 108.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield of Fat.
1	19 Mar. 1930 ...	*196	284	31	lbs. 6,114½	—	—	lbs. —
2	12 Aug. 1931 ...	4	364	50	14,126½	—	—	—
3	3 Oct., 1932 ...	4	632	92	21,496½	6	3.43	737
4	1 Oct., 1934 ...	—	—	—	—	—	—	—

*Includes the period March 21st to October 1st, 1930, cow not recorded.



"GRACEFUL." Catalogue number 161.

Exhibited in Class 11 (for South Devon cows).

British Dairy Farmers' Association official photograph, taken on October 24th, 1934.

Born 22nd May, 1928. Age when photographed 6 years 5 months.

Prizes won at the London Dairy Show, 1934—First Milking Trial, Third Butter Test.

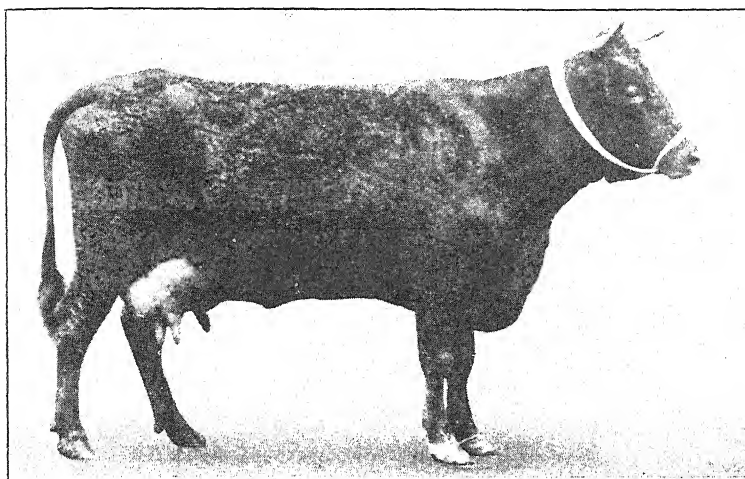
Owner and Breeder, J. Rossiter, Esq.

Details of thirteen body measurements given on page 108.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield of Fat.
1	11 Nov., 1931 ...	4	248	57	lbs. 6,319½	Not	tested	lbs.
2	16 Sept., 1932 ...	5	290	72	7,268½	—	—	—
3	18 Sept., 1933 ...	13	280	69	10,129	—	—	—
*4	15 Sept., 1934 ...	—	—	—	—	—	—	—

*Record incomplete for 4th lactation.



"DARTINGTON VERA 10TH." Catalogue number 166.

Exhibited in Class 11 (for South Devon cows).

British Dairy Farmers' Association official photograph, taken on October 24th, 1934.

Born March, 1927. Age when photographed, 7 years 7 months.

Prizes won at the London Dairy Show, 1934.—First Inspection, Second Milking Trial.

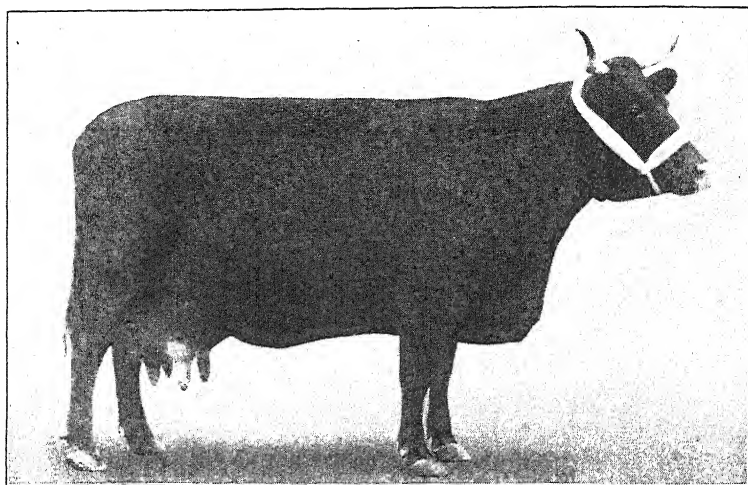
Owners, Dartington Hall Ltd. Breeder, John Wills, Esq.

Details of thirteen body measurements given on page 108.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNERS AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield of Fat.
1	—	—	—	—	lbs.	—	—	lbs.
*2	—	—	284	72	6,253½	— No	regular	tests.
3	8 Nov., 1932 ...	4	251	61	8,116½	—	—	—
4	21 Sept., 1933 ...	4	272	91	9,197½	—	—	—
*5	23 Sept., 1934 ...	—	—	—	—	—	—	—

*Record incomplete for 2nd and 5th lactations.



"CORTON COMET." Catalogue number 184.

Exhibited in Class 14 (for Devon cows).

British Dairy Farmers Association official photograph, taken on October 24th, 1934.

Born 20th July, 1926. Age when photographed, 8 years 3 months.

Prizes won at the London Dairy Show, 1934.—First Inspection, Extra Inspection, First Milking Trial, Busk Challenge Cup.

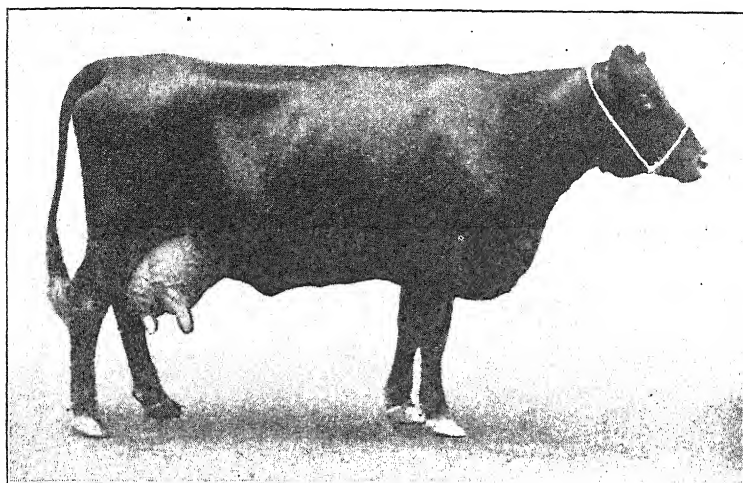
Owner and Breeder.—H. G. Mayo, Esq.

Details of thirteen body measurements given on page 108.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average percentage.	Lactation yield of Fat.
1	29 June, 1929 ...	16	239	82	lbs. 4,392	—	—	lbs.
2	1 June, 1930 ...	16	225	97	5,477½	—	—	—
3	5 May, 1931 ...	8	246	88	6,841½	—	—	—
4	11 Apr., 1932 ...	5	441	58	9,729½	9	4.50	438
5	28 Aug., 1933 ...	4	303	46	9,321½	6	4.04	377
*6	16 Aug., 1934 ...	5	—	—	—	—	—	—

*Record incomplete for 6th lactation.



"KNEPP PRUDENCE 7TH." Catalogue number 187.

Exhibited in Class 15 (for Red Poll Cows born on or previous to 1st August, 1929).

British Dairy Farmers' Association official photograph, taken on October 24th, 1934.

Born 6th May, 1926. Age when photographed 8 years 6 months.

Prizes won at the London Dairy Show, 1934.—First Milking Trial, Fourth Butter Test.

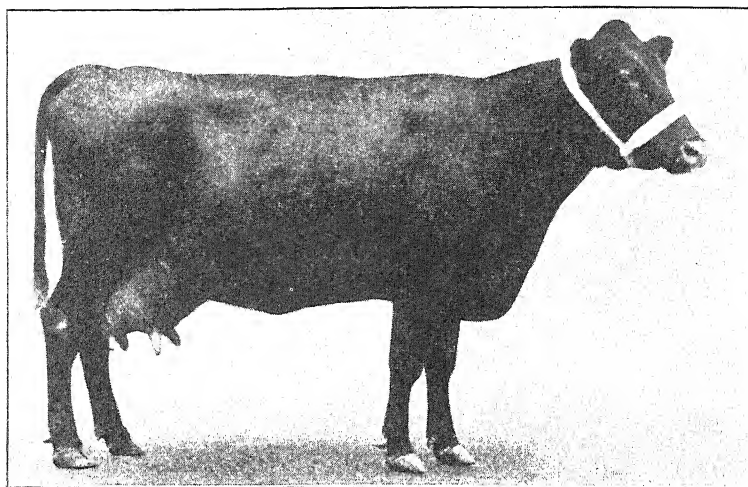
Owner and Breeder.—Lt.-Col. Sir Merrik Burrell, Bart, C.B.E.

Details of thirteen body measurements given on page 108.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Sucked a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield of Fat.
1	23 Jan., 1929 ...	4	375	53	lbs. 9,417	8	3.63	342
2	31 Mar., 1930 ...	4	345	59	13,625½	8	3.52	480
3	13 May, 1931 ...	5	390	108	11,675½	8	3.66	427
4	27 Sept., 1932 ...	4	279	67	11,501	6	4.05	466
5	13 Sept., 1933 ...	4	300	55	13,245½	7	3.44	456
*6	7 Sept., 1934 ...	—	—	—	—	—	—	—

*Record incomplete for 6th lactation.



“WHITE HILL RED BRIAR.” Catalogue number 195.

Exhibited in Class 15 (for Red Poll Cows, born on or previous to 1st August, 1929).

British Dairy Farmers' Association official photograph, taken on October 24th, 1934.

Born 2nd March, 1929. Age when photographed, 5 years 7 months.

Prize won at the London Dairy Show, 1934.—First Inspection.

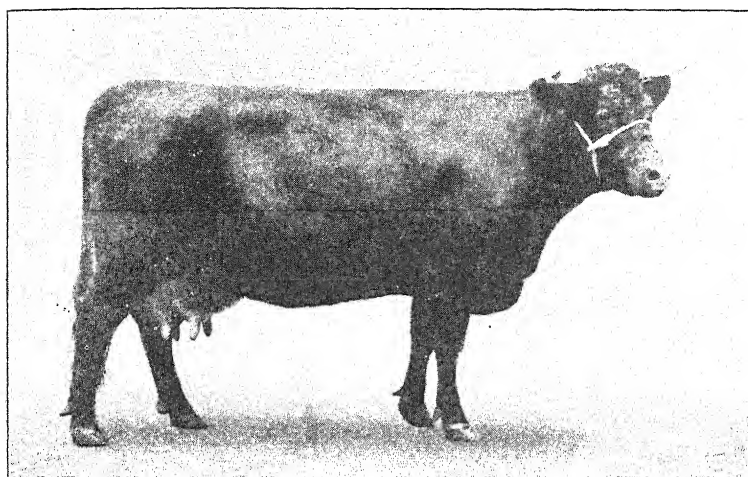
Owner and Breeder.—Mrs. R. M. Foot.

Details of thirteen body measurements given on page 108.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES.)

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield of Fat.
1	20 Aug., 1931 ...	4	269	103	lbs. 4,284½	5	3.41	lbs. 146
2	30 Aug., 1932 ...	4	217	132	4,335½	4	3.14	136
3	18 Aug., 1933 ...	4	285	89	7,646½	6	3.10	237
*4	31 Aug., 1934 ...	4	—	—	—	—	—	—

*Record incomplete for 4th lactation.



"DREAM." Catalogue number 228.

Exhibited in Class 20 (for Welsh Black Cows).

British Dairy Farmers' Association official photograph, taken on October 24th, 1934.

Born 26th March, 1929. Age when photographed, 5 years 7 months.

Prizes won at the London Dairy Show 1934.—First Inspection, Extra Inspection, First Milking Trial.

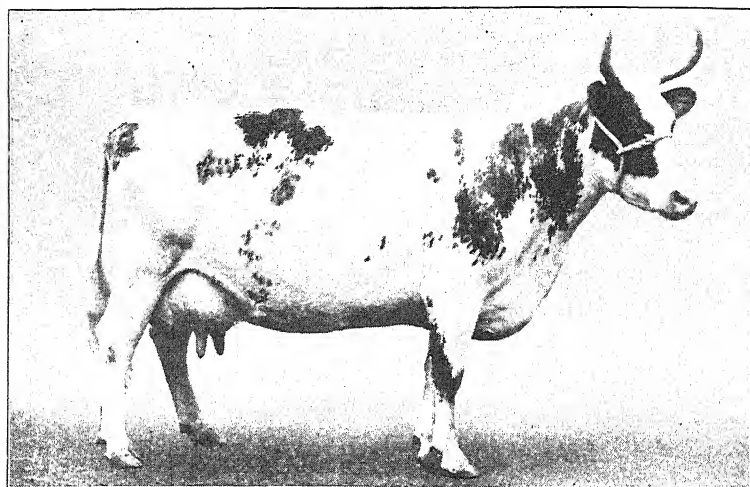
Owner and Breeder.—Hon. Lady Shelley-Rolls.

Details of thirteen body measurements given on page 108.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES.)

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average percentage.	Lactation yield of Fat.
1	19 Sept., 1932 ...	4	366	20	lbs. 8,309½	Not	tested.	lbs.
2	14 Oct., 1933 ...	4	284	50	7,056½	—	—	—
*3	17 Sept., 1934 ...	—	—	—	—	—	—	—

*Record incomplete for 3rd lactation.



“DALPEDDAR EAST WIND.” Catalogue number 238.

Exhibited in Class 21 (for Ayrshire cows).

British Dairy Farmers' Association official photograph, taken on October 24th, 1934.

Born 7th December, 1926. Age when photographed, 7 years 11 months.

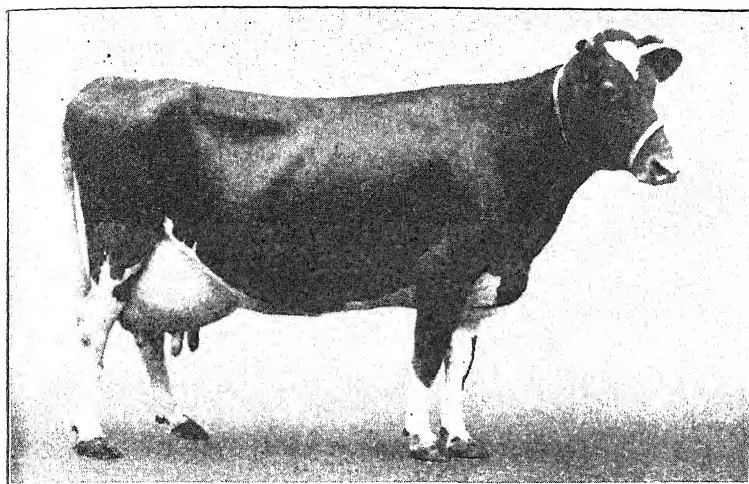
Prizes won at the London Dairy Show.—First Inspection, Extra Inspection, First Milking Trial, Rowallan Challenge Cup.

Owner and Breeder.—W. A. Thomson, Esq.

Details of thirteen body measurements given on page 108.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield of Fat.
1	3 Jan., 1930 ...	—	313	75	lbs. 9,360	13	3.71	lbs. 347
2	26 Jan., 1931 ...	—	369	48	11,420	14	3.72	425
3	18 Mar., 1932 ...	—	310	132	10,890	12	3.59	391
4	3 June, 1933 ...	—	333	143	16,880	12	4.05	684
5	22 Sept., 1934 ...	—	—	—	—	—	—	—



"IMPERIAL COUNTESS." Catalogue number 293.

Exhibited in Class 23 (for Guernsey cows born on or previous to 1st August, 1929).

British Dairy Farmers' Association official photograph, taken on October 24th, 1934.

Born 26th May, 1928. Age when photographed, 6 years 5 months.

Prizes won at the London Dairy Show 1934.—First Inspection, Extra Inspection, Second Milking Trial, Second Butter Test.

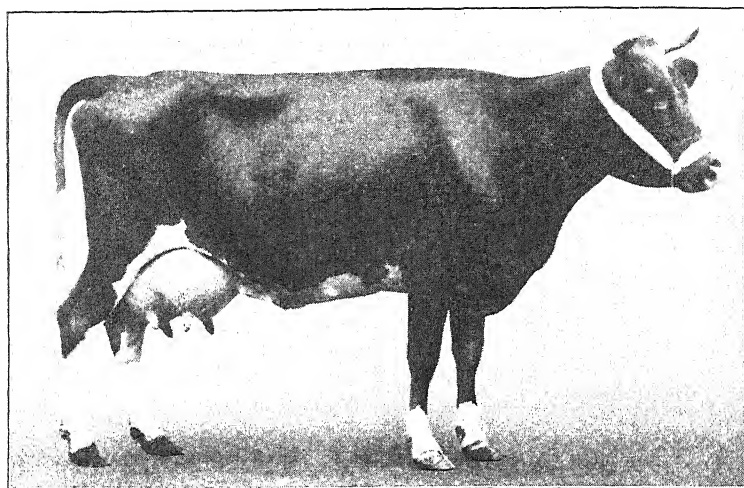
Owner.—R. O. Hambro, Esq. Breeder.—W. C. Frampton, Esq.

Details of thirteen body measurements given on page 108

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNERS AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield of Fat.
1	14 Mar., 1931 ...	4	365	20	lbs. 9,583½	—	4.57	438
2	15 Apr., 1932 ...	4	382	38	9,696½	—	4.42	429
3	13 June, 1933 ...	4	351	53	8,162	7	4.52	369
*4	26 July, 1934 ...	—	—	—	—	—	—	—

*Record incomplete for 4th lactation.



“PRINCESS OF THE GRÉE.” Catalogue number 296.

Exhibited in Class 23 (for Guernsey cows born on or previous to 1st August, 1929).

British Dairy Farmers' Association official photograph, taken on October 24th, 1934.

Born 23rd June, 1927. Age when photographed, 7 years 4 months.

Prize won at the London Dairy Show, 1934.—First Milking Trial.

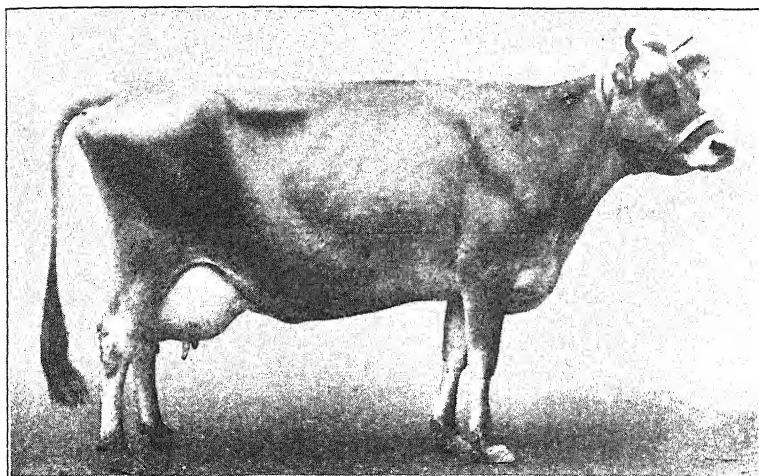
Owner.—Newton R. Steel, Esq. *Breeder,* H. King, Esq.

Details of thirteen body measurements given on page 108.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average percentage.	Lactation yield of Fat.
1	—	—	—	—	lbs.	—	—	lbs.
2	—	—	—	—	—	—	—	—
3	—	—	—	—	—	—	—	—
4	10 Nov., 1932 ...	6	296	42	8,633	—	—	—
5	19 Oct., 1933 ...	4	260	52	9,006½	—	—	—
*6	31 Aug., 1934 ...	—	—	—	—	—	—	—

*Record incomplete for 6th lactation.



“SONATA.” Catalogue number 331.

Exhibited in Class 26 (for Jersey cows born on or previous to 1st August, 1929).

British Dairy Farmers' Association official photograph, taken on October 24th, 1934.

Born 11th November, 1925. Age when photographed, 8 years 11 months.

Prizes won at the London Dairy Show, 1934.—First Milking Trial, First Butter Test, Blythwood Production Challenge Bowl, National Butter Challenge Cup.

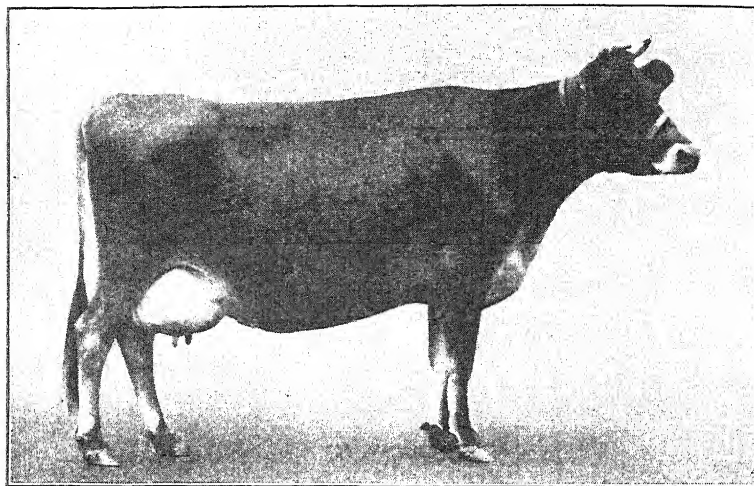
Owner.—J. W. McCallum, Esq. Breeder.—late Mr. F. Barchard.

Details of thirteen body measurements given on page 108.

*YEARLY MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES).

Year ending Oct. 1st.	No. of days the Cow			Yearly milk yield.	Summary of Butter Fat Tests.		
	Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per- centage.	Lactation yield of Fat.
1930 ...	5	333	27	lbs. 7,658½	—	—	lbs. —
1931 ...	4	323	38	11,699½	—	—	—
1932 ...	4	327	35	10,948½	—	—	—
1933 ...	4	336	25	8,830½	—	—	—
1/10/33 to 18/6/34	—	260	—	6,806½	—	—	—

*Lactation period records not available.



"COWSLIP 5TH." Catalogue number 335.

Exhibited in Class 26 (for Jersey cows born on or previous to August 1st, 1929).

British Dairy Farmers' Association official photograph, taken on October 24th, 1934.

Born 22nd December, 1927. Age when photographed, 6 years 10 months.

Prizes won at the London Dairy Show, 1934.—First Inspection, Extra Inspection, Second Milking Trial, Second Butter Test. Blythwood Perpetual Challenge Bowl.

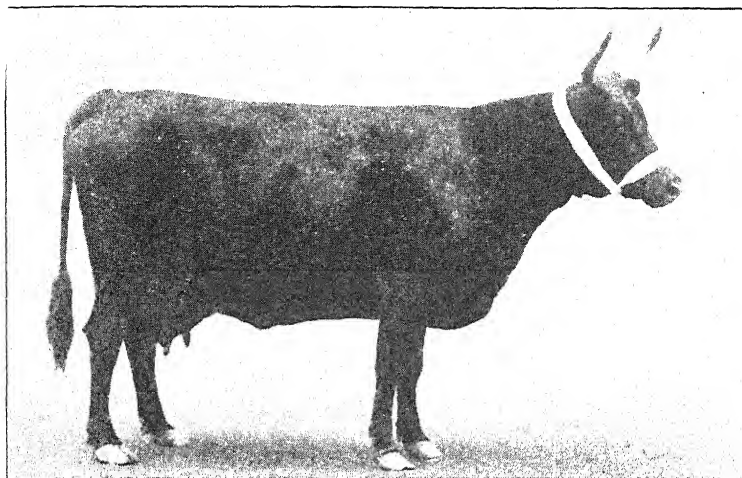
Owner.—S. S. Lockwood, Esq. *Breeder,* A. W. Ruggles-Brise, Esq.

Details of thirteen body measurements given on page 108.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES.)

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield of Fat.
1	—	—	—	—	lbs.	—	—	lbs.
2	—	—	—	—	—	—	—	—
3	28 Mar., 1932 ...	4	380	51	10,962½	Not	tested.	—
4	6 June, 1933 ...	4	277	47	10,402	6	4.88	508
*5	30 Apr., 1934 ...	—	—	—	—	—	—	—

*Record incomplete for 5th lactation.



"ARD CAEIN DOVE." Catalogue number 381.

Exhibited in Class 29 (for Kerry cows).

British Dairy Farmers' Association official photograph, taken on October 24th 1934.

Born 11th May, 1922. Age when photographed, 12 years 5 months.

Prizes won at the London Dairy Show 1934.—First Inspection, Extra Inspection, First Milking Trial, Second Butter Test (£2 prize) British Kerry Cattle Society's Challenge Cup.

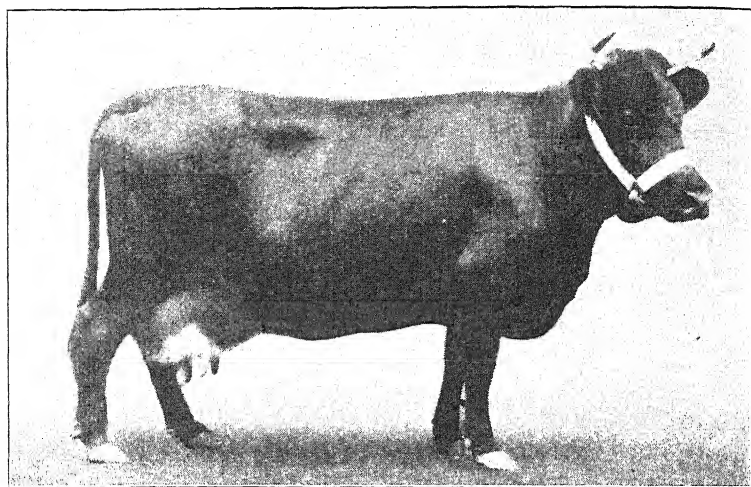
Owner.—H. E. Mitchell, Esq. Breeder.—late Mr. S. J. Brown.

Details of thirteen body measurements given on page 108.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average per-centage.	Lactation yield of Fat.
1	26 Apr., 1927 ...	4	315	?	lbs. *6,615	—	†5.12	lbs. —
2	23 Oct., 1928 ...	4	308	?	*6,723	—	†5.06	—
3	19 Nov., 1929 ...	4	315	?	*6,623	—	†5.75	—
**4	30 Dec., 1930 ...	4	232	—	*5,033	—	†5.70	—
5	15 June, 1932 ...	4	288	90	8,667½	—	—	—
6	1 July, 1933 ...	4	371	80	8,791	Not	tested.	—
7	8 Oct., 1934 ...	—	—	—	—	—	—	—

*Recorded in Ireland. **4th lactation incomplete.



"GRINSTEAD NIGHTINGALE 3rd." Catalogue number 390.

Exhibited in Class 31 (for Dexter Cows).

British Dairy Farmers' Association official photograph, taken on October 24th, 1934.

Born 19th December, 1925. Age when photographed, 8 years 10 months.

Prizes won at the London Dairy Show, 1934.—First Inspection, Extra Inspection, Second Milking Trial, First Butter test (£3 prize), Nutt Challenge Cup.

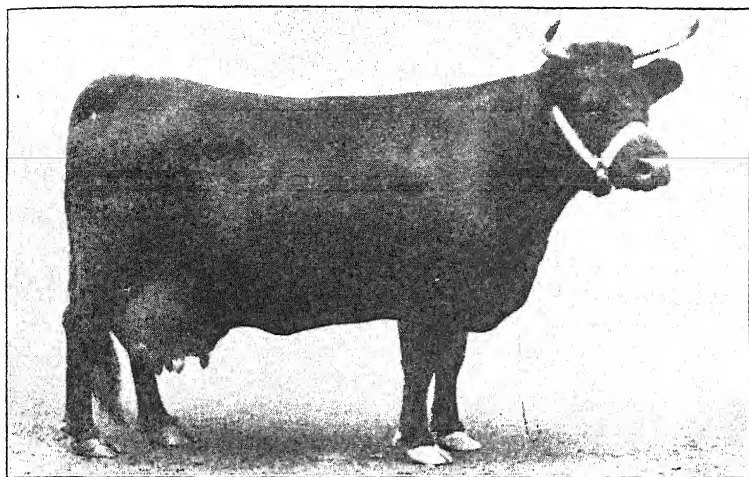
Owner and Breeder.—Lady Loder.

Details of thirteen body measurements given on page 108.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average percentage.	Lactation yield of Fat.
1	15 Aug., 1928 ...	4	294	66	lbs. 5,544	—	—	lbs. —
2	14 Aug., 1929 ...	4	294	87	6,646	—	—	—
3	3 Sept., 1930 ...	4	231	—	5,630½	—	—	—
4	26 Apr., 1931 ...	4	248	117	3,375½	—	—	—
5	29 Apr., 1932 ...	4	372	12	9,306½	—	—	—
6	17 May, 1933 ...	4	294	68	5,643½	—	—	—
*7	18 May, 1934 ...	4	—	—	—	—	—	—

*Record incomplete for 7th lactation,



"GRINSTEAD HAWK 5TH." Catalogue number 391.

Exhibited in Class 31 (for Dexter Cows).

British Dairy Farmers' Association official photograph, taken on October 24th, 1934.

Born 12th June, 1928. Age when photographed, 6 years 4 months.

Prizes won at the London Dairy Show, 1934.—Second Inspection, First Milking Trial.

Owner and Breeder, Lady Loder.

Details of thirteen body measurements given on page 108.

LACTATION MILK RECORDS (COMPILED FROM INFORMATION SUPPLIED BY OWNER AND MILK RECORDING SOCIETIES).

No. of Lactation.	Calving Date.	No. of days the Cow			Lactation milk yield.	Summary of Butter Fat Tests.		
		Suckled a Calf.	Was Recorded (excluding Suckling period).	Was dry.		No. of complete day tests.	Average percentage.	Lactation yield of Fat.
1	15 May, 1930 ...	4	335	33	lbs. 4,546½	—	—	lbs. —
2	22 May, 1931 ...	4	278	58	4,725½	—	—	—
3	26 Apr., 1932 ...	4	312	59	6,476½	—	—	—
4	10 May, 1933 ...	4	392	45	10,250½	—	—	—
*5	24 July, 1934 ...	4	—	—	—	—	—	—

*Record incomplete for 5th lactation.

MEASUREMENTS OF FIRST PRIZE WINNERS, LONDON DAIRY SHOW, 1934.
TAKEN OCTOBER 24TH, 1934, BY S. BARTLETT.

Catalogue Number of Animal	...	3	7	80	82	103	104	120	132	161	166	184	187	195	228	228	253	293	331	335	381	390	391
First Prize-- Inspection or Milking Trial	...	M. T. Insp.	M. T. Insp.	M. T. Insp.	M. T. Insp.	M. T. Insp.	M. T. Insp.	M. T. Insp.	M. T. Insp.	M. T. Insp.	M. T. Insp.	M. T. Insp.	M. T. Insp.	M. T. Insp.	M. T. Insp.	M. T. Insp.	M. T. Insp.	M. T. Insp.	M. T. Insp.	M. T. Insp.	M. T. Insp.	M. T. Insp.	M. T. Insp.
Name of Animal.		Pothening Water Baby.	Honey Jean.	Fanny.	Snowball.	Bendish Sunbeam 12th.	Bendish Poppy 9th.	British Terling 9th.	Oakham Dairym.	Graceful.	Darlington Vera 10th.	Corton Compt.	Red Poll. Prideance 7th.	White Hill Red Brier.	Dream.	East Wind.	Imperial Countess.	Princess of the Glee.	Sonata.	Cowslip 5th.	Ard Caeth Dove.	Nightingale 3rd.	Grimshead Hawk 5th.
	Breed.	Pedizee Shorthorn.	Pedizee Shorthorn.	N.P. Shorthorn.	N.P. Shorthorn.	Lincoln Red.	Lincoln Red.	British Terling 9th.	British Terling 9th.	British Dairym.	South Devon.	South Devon.	Devon. Corton	Red Poll.	Red Poll.	Welsh Black.	Avshire.	Guernsey.	Guernsey.	Jersey.	Jersey.	Doyle.	Doyle.
		lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
		1,232	1,508	1,250	1,368	1,438	1,438	1,304	1,509	1,536	1,536	1,296	1,533	1,210	1,271	1,314	1,307	1,090	868	937	952	1,078	1,547
		56.2	59.9	57.7	60.1	60.0	59.6	60.1	64.3	62.9	60.2	58.0	58.6	58.0	58.0	59.2	59.8	56.1	55.4	56.1	52.9	53.2	40.4
		17.8	19.6	18.7	19.6	19.6	19.5	19.8	21.5	19.7	20.2	19.8	19.0	19.9	19.9	18.4	19.9	18.8	17.8	18.0	17.9	17.6	16.0
		51.3	55.2	51.5	53.9	52.4	53.2	53.0	56.9	52.5	52.8	50.6	52.4	51.6	50.0	52.4	49.5	50.1	48.0	48.4	48.4	39.4	40.7
		62.5	64.8	62.5	64.3	63.1	62.1	62.2	66.2	64.1	64.3	60.2	58.0	58.0	59.2	59.8	56.1	55.4	56.1	52.9	53.2	40.4	46.0
		28.9	30.5	28.6	30.8	29.1	30.6	28.8	31.0	30.5	29.4	30.1	29.3	28.5	28.4	29.5	28.3	27.6	27.3	27.2	27.5	23.6	23.7
		16.3	19.5	16.1	15.6	18.0	18.2	17.6	18.4	17.6	15.6	20.6	16.9	17.2	19.1	15.2	14.1	13.2	11.8	13.0	10.5	12.7	14.4
22.2		24.2	22.0	23.0	23.5	24.2	21.7	23.7	23.4	23.6	24.0	22.2	21.5	23.9	23.0	20.5	19.8	20.2	19.1	20.8	17.1	17.3	
20.2	21.9	19.7	20.4	20.6	28.8	20.7	23.7	21.5	19.8	18.9	18.7	19.0	18.5	20.1	17.0	17.0	16.7	17.3	16.3	17.1	15.0	15.0	
94.6	100.5	91.0	92.8	93.4	95.0	89.8	100.6	97.1	90.0	102.4	89.7	91.3	95.2	96.5	87.8	83.0	86.9	87.8	88.6	78.2	77.4		
74.2	81.4	74.0	78.1	77.2	79.9	76.7	80.5	80.2	76.0	83.0	75.0	74.5	76.3	75.6	70.5	69.2	65.9	67.6	72.1	63.0	63.2		
7.0	6.9	7.5	7.4	7.5	7.5	7.5	7.4	7.5	7.5	7.5	7.5	7.2	7.3	7.2	7.2	7.0	6.2	6.0	5.9	5.8	6.5	6.1	
20.1	19.9	20.6	20.1	21.0	19.8	20.0	20.4	21.0	21.1	19.6	19.6	19.6	20.1	18.2	20.3	19.0	19.7	17.0	17.0	18.9	16.6	16.7	
8.3	8.9	8.5	8.9	8.5	8.4	9.5	9.2	8.6	9.0	9.0	9.0	8.5	8.6	8.7	8.3	7.7	8.2	8.3	7.9	8.1	8.4	8.8	

Measurements.

INTER-COUNTY CLEAN MILK COMPETITION, 1933-34

By S. J. CANNAN.

The competition, which covered the 12 months ended 30th June, 1934, attracted entries from five counties, *viz.*, Berkshire, Essex, Glamorgan, Middlesex and Warwickshire. It was the first occasion on which an entry had been received from a Welsh Authority and although Glamorgan did not figure amongst the three leading counties, their performance was very creditable.

The scheme was in every respect similar to that carried out in 1932/33 and the competition was won by Berkshire with the record score of 6,010.5 marks. This is the fourth consecutive occasion on which Berkshire has been successful. As was the case in 1932/33, Warwickshire and Essex were second and third respectively. A full statement of marks awarded to the three leading counties is given on page 111.

The presentation of the prizes at the Dairy Show was kindly undertaken by Dr. Thomas Orr, M.D., D.Sc., Medical Officer of Health for Ealing, who was supported by Mr. J. G. Stapleton, the donor of the "Inter-County" Trophy, and Mr. J. F. Blackshaw, O.B.E., Dairy Commissioner of the Ministry of Agriculture and Fisheries.

The following is a full list of awards :—

Winning County : Berkshire, Stapleton Cup.

Leading Competitor in Berkshire Clean Milk Competition :
Mr. E. A. Mortimore, £50.

Leading Competitor in Warwickshire Clean Milk Competition : Mr. F. Hawes, £25.

Leading Competitor in Essex Clean Milk Competition :
Mr. D. F. Macaulay, £10.

Head cowman of each of the above competitors, Mr. A. E. Vallenge, Mr. A. Walker and Mr. J. Pullford, £10, £8 and £6 respectively.

This competition was the seventh of the series and the following short summary of the complete results may be of interest :—

	No.				
<i>Year.</i>	<i>Entries.</i>	<i>Leading County.</i>		<i>Second.</i>	<i>Third.</i>
1926/27	11	Cornwall	(3,727 marks)	Essex	Berks.
1927/28	8	Essex	(3,826 „)	Cornwall	Berks.
1928/29	4	Suffolk	(2,904.2 „)	Berks.	Warwicks.
1929/30	4	Berks.	(3,225.8 „)	Warwicks.	Bucks.
1930/31	5	Berks.	(3,354.6 „)	Cornwall	Warwicks.
1931/32	No COMPETITION.				
1932/33	4	Berks.	(5,304 marks)	Warwicks.	Essex
1933/34	5	Berks.	(6,010.5 „)	Warwicks.	Essex

The response from the county authorities during the period of these competitions has not been so great as might have been anticipated, but the scheme has undoubtedly served a very useful purpose in maintaining interest in the "clean milk" movement during a period when little incentive was offered to those producers who were making every effort to improve their milk.

In this direction, as in many others, the British Dairy Farmers' Association has set an excellent example in encouraging progress in the Industry; and it is satisfactory to know that the efforts of those who have worked to secure an improvement in the milk supply are likely to bear fruit in the near future when the quality premium scheme is introduced by the Milk Marketing Board. In this connection it is probable that the introduction of quality premium payments will necessitate such re-organisation of county educational schemes as to render the present "Inter-County" scheme inapplicable and that new conditions governing the award of the Stapleton Cup in future years will have to be devised. But it is hoped that, whatever scheme is eventually approved the desire to hold the Cup will lead to keen competition and more good work.

SUMMARY OF MARKS AWARDED.

		Berkshire.	Warwick-shire.	Essex.
COUNTY CLEAN MILK COMPETITIONS AND ADVISORY SCHEMES.				
For each herd in excess of 30 ...	5 points	365	220	475
For each herd entered in the clean milk competition for the first time ...	10 ..	300	280	310
For each 1% of herds in the clean milk competition gaining not less than 66½% of possible marks for inspection	5 ..	466.5	485.5	375
Ditto for Bacterial Count ...	5 ..	483.5	328.5	278
Ditto for absence of <i>B. coli</i> ...	5 ..	483.5	428.5	347
Ditto for keeping quality ...	5 ..	466.5	343	500
Ditto for absence of sediment ...	2 ..	200	120	100
For each herd gaining not less than 75% of the total marks in the clean milk competition ...	5 ..	145	95	100
For each sample, examined in connection with advisory schemes which conformed with the required standard max.	5 ..	1,924	780.5	1,135
CLEAN MILK DEMONSTRATIONS.				
On the relationship of the total number of attendances at approved clean milk demonstrations to the number of dairy farmers in the administrative area. For each 1 per cent. ...	5 ..	331.5	—	—
MILKERS' COMPETITIONS.				
For each competitor gaining not less than 75 per cent. of possible marks ...	2 ..	190	134	—
For each 1 per cent. of competitors gaining not less than 75 per cent. of possible marks ...	3 ..	282	300	—
LICENSED PRODUCERS.				
For each licensed producer of Certified milk ...	5 ..	30	40	30
For each licensed producer of Grade "A" (T.T.) milk ...	5 ..	160	70	100
For each licensed producer of Grade "A" milk ...	3 ..	3	114	93
For each producer taking out a licence for Graded milk, for the first time, during the year of the competition ...	20 ..	180	160	40
Total		6,010.5	3,899	3,883

ANNUAL REPORT OF THE CONSULTING CHEMIST

By T. J. DRAKELEY, D.Sc., Ph.D., F.I.C., F.C.S., F.I.R.I.

During the year 1934, the number of samples submitted by the members for examination and investigation was considerably less than for the previous year.

The majority of the samples were for routine chemical or bacteriological examination, and with the exception of a few milk samples which gave a low figure for the content of solids-not-fat, the results obtained were normal and call for no comment in this report.

As mentioned in the report last year, there was an increased interest in the water supply, and more than the usual number of water samples were again this year submitted for examination. Most of these samples were highly satisfactory, but the warning given last year must be repeated.

It is quite possible that some of the samples reported as satisfactory for drinking and dairy purposes attained the necessary high standard owing to the almost complete cessation of surface drainage during the drought. With more normal weather conditions, such sources of supplies may become a serious danger to health, as the wells may then be receiving the usual surface drainage and contamination.

THE DAIRY SHOW OF 1934

By SIDNEY EDWARDS.

The fifty-sixth Annual Dairy Show was held on October 23rd, 24th, 25th and 26th, six days later than the Show of 1933, which may account for the increase in the number of cattle sent forward.

By 10 a.m. on Saturday, October 20th, 258 Cows had passed the veterinary examination and had been allowed to enter the Gilbey Hall, which was reserved for the exhibits of Cattle and Goats, 80 of the cattle exhibits were entered in the section set apart for cows from Licensed herds.

Owing to an outbreak of Foot-and-Mouth Disease in Lincolnshire, it was unfortunate that six cows, the property of a staunch supporter and Vice-President of the Association, Mr. John Evens of Burton, Lincoln, were removed from the Hall and placed in quarantine, by the officials of the Ministry of Agriculture.

Following the practice of recent years the Milking Trials and Butter Tests were carried out on Sunday and Monday, October 21st and 22nd. The points gained did not reveal any record breaking individuals, but indicated high average merit.

Judging of the Cattle commenced at 9 a.m. on Tuesday. Owing to the increase in the numbers present, many Classes were taken into the street and others to the Main Hall, to be judged. Thus reverting to a practice that was general in former years.

Dairy Shorthorns were probably the best collection ever seen at the Dairy Show.

In the Senior Cow Class. Seven paraded. "Kentish Honey Jean" a June calver, was an outstanding winner in a good class and later was adjudged to be the best Pedigree Dairy Shorthorn Cow or Heifer, upon Inspection only, winning for her owner the "Calvert" Challenge Cup.

It is worthy of mention that three cows from this Class were selected to comprise the Shorthorn team, that won the Bledisloe Trophy.

In the Young Cow Class. Sixteen animals came before the Judges and were of high general merit. Exhibits from Sir Mark Collet secured first, third and fifth places, a trio that later were awarded the Thornton Cup for the best group of three from one herd.

Dairy Shorthorn Heifers were of a high standard; of the twenty forward, the first five were of exceptional merit.

One of the Judges, Mr. J. C. Robinson, in his report draws attention to the high percentage of exhibitors in the Dairy Shorthorn section who bred their exhibits.

Non-Pedigree Shorthorns were an excellent Class. The leader, an eight-gallon cow "Snowball" also gaining Second place in the Milking Trials and a place in the Shorthorn team. On her visit to the 1933 Show "Snowball" gained second place for Inspection and in the Milking Trials, and her owner Mr. T. B. Bucknell was awarded The "Shorthorn Butter" Challenge Cup and First Prize and Silver Medal for her performance in the Butter Tests.

Another good cow "Fanny" was Highly Commended and gave a yield of nearly nine gallons in the Milking Trials, gaining First Prize, and a place in the Shorthorn team.

Non-Pedigree Shorthorn Heifers were an entry of six, that were true to type.

Lincolnshire Red Shorthorns were reduced from thirteen to seven by the withdrawal of Messrs. John Evens and Son's exhibits. The remaining entries were of nice dairy character.

British Friesians made a good display. In the Mature Cow Class, eleven animals paraded of the twenty-two entered. The winner was an almost perfect cow, giving a milk yield of seven gallons daily, a strong milky looking cow was placed in the second position, the third ticket going to "Oakham Dainty" the Supreme Champion of the 1932 Dairy Show, and yielding over nine gallons in the Milking Trials. In fourth place stood a thinner kind of cow "Curbridge Jessamine" with close upon a ten gallon milk yield.

The young cows were more uniform and no less dairylike than their seniors. The winner was strong, square and milky—and also gained first place in the Milking Trials. The animals placed second and third were correct, but lacked the substance of the winner.

Heifers were few but pleasing. The exhibits of Mr. G. J. Caddey taking the three prizes, and later as a group winning the Thornton Challenge Cup for British Friesian Cows or Heifers. Two of the group also gained first and second place in the Milking Trials.

Six South Devon cows paraded in the Senior Class. Exhibits from Dartington Hall, Ltd., taking first and second prizes, with cows carrying good udders. Third prize was awarded to Miss Jervoise Smith's "Crocus" that gained first prize and Silver Medal in the Butter Tests, her yield of 63 lbs. of milk, producing 3 lbs. 13½ ozs. of butter.

In the Young Cow Class, the leaders were sent forward by Dartington Hall, Ltd., third position was taken by "Milkmaid 3rd" a daughter of the great cow "Milkmaid 14th." "Milkmaid 3rd" also secured second place in the Milking Trials, and reserve in the Butter Tests.

Five Heifers paraded, first prize going to a good bagged animal sent forward by Mr. J. Rossiter, second and third positions going to exhibits from *Dartington Hall, Ltd.*

The Devon Cow Class was not well supported, the four animals entered paraded, and were good examples of their breed.

Red Polls made a very fine show, with an entry of forty animals in three classes. The leader in the Senior Class, being a 6 gallon cow owned by Mrs. R. M. Foot, that took second place in the young cow class at the 1933 Show. The exhibit of another lady exhibitor, The Hon. Mrs. Robert Jenkinson, taking second position and the Extra Inspection Prize.

In the young cow class, the leading place was taken by Messrs. Brooks, Mistley, who were exhibiting for the first time, with "Mistley Amethyst," of dual purpose character. Second place going to the exhibit sent by Mrs. H. D. Lewis, "Combwell Rosie," that yielded 64.10 lbs. of milk and gained First Prize in the Milking Trials.

Heifers were an excellent class. First Prize on Inspection and in the Milking Trials going to "Yoxford Maiden 3rd." In second place was "White Hill Monks Flight," that also came second in the Trials and gave a milk yield of 48.20 lbs.

The classes for Blue Albions failed to attract entries.

Welsh Blacks were a small class. Three were absent of the seven cows entered. "Dream," the property of Lady Shelley Rolls, is a typical example of a good Welsh cow and headed her class, followed by "Gwenphair" and "Topsy 4th" from the same herd.

Ayrshires with an entry of fifty-five, of which fifteen cows and eighteen heifers were paraded, made an excellent display, in pleasing contrast to last year, when only thirteen exhibits came forward. The leader in the cow class was "Dalpeddar East Wind," of great substance, a capacious udder and well set teats, and a milk yield of close on nine gallons. In third and fourth place were cows that have been seen at the Dairy Show on former occasions, they were followed by a good polled cow, which was a favourite with the ringside. The heifers were in the view of many the best seen in London, either of the first six would have made a creditable winner. They were also good at filling the milk pail.

Guernseys were an increase on last year. In the Senior class eight cows appeared before the Judge and were somewhat uneven, but the six leaders were good animals. The young cows were a quartette, with an outstanding winner. The heifers were a smart lot, the first six, animals of merit.

Jerseys were a strong section and excellent in quality. The leader in the senior class looked very fresh some six months after calving and an outstanding winner.

The young cows were led by two capital animals, that combined inspection type with dairy quality. The winner scored with a slightly better top. Heifers were a strong and interesting class.

Kerry Cows were a strong class, but except for the leading animals, the class was not a good one. Breeders should try to improve the shape of the udders. Three of the five animals entered in the heifer class were forward. Here again the bags were not at all good.

Dexter Cow class attracted four exhibits that were typical of the Breed, and the best seen for some time.

The class for heifers was cancelled.

BULLS (Progeny of)

The entries in this section are rapidly increasing. The progeny of thirty-four Bulls, an increase of thirteen from last year, were entered for the awards, which are based on progeny performance in the Milking Trials. Nine breeds competed.

BLDISLOE CHALLENGE TROPHY..

The interest taken in the parades of teams of six cows, selected from seven breeds was no less keen than in former years, and undoubtedly is the greatest feature of the Dairy Show from a breeder's point of view. The Shorthorn team on inspection was awarded the maximum of 500 points. The Ayrshires were placed next with 30 points less. They were followed by the British Friesian and six beautiful Jerseys occupied fourth place.

The addition of the points gained in the Milking Trials to those awarded by the Inspection Judge placed the Shorthorns in the coveted position for the first time, with a total of 1,516.23 points. Ayrshires taking the reserve position with 1,473.92 points.

The Trophy was presented by the President of the Association, Mr. G. Titus Barham, to Major S. P. Yates, President of the Dairy Shorthorn Association.

SUPREME INDIVIDUAL CHALLENGE TROPHY.

The award of the Supreme Trophy took place on Thursday afternoon, fourteen cows appeared before the Inspection Judge for the allocation of points on Inspection, which are added to the points gained in the Milking Trials and Butter Tests. The leader on Inspection, "Snowball," had to give way in the final placing to "Oakham Dainty," that gained 201.99 points in the Milking Trials, Butter Tests 56.75 points, Inspection 115 points, a total of 373.74 points. The Ayrshire cow "Dalpeddar East Wind" was reserve with a score of 355.04 points.

"Oakham Dainty" in addition to gaining the Supreme Award had earlier been awarded the Barham, Spencer and Shirley Challenge

Cups. At the Dairy Show of 1932, this great cow was also Supreme Champion and created a record in respect of points gained in the Milking Trials.

GOATS.

The entry of Goats was above the average, though fourteen less than last year. They were granted a Judging Ring in the Barford yard which was appreciated by the Judge and Exhibitors.

CHEESE.

The exhibits were staged in the Barford Hall, the accommodation being taxed to its utmost capacity, entries having increased by two hundred since last year. It is probable that the increase in entries was due in a large measure to the offer of a Challenge Cup, by the Earl of Lonsdale, K.G., G.C.V.O., for the best exhibit of Cheese made at a farm house. Makers in England, Scotland and Wales being eligible to compete.

The class for 6 Stilton Cheeses was cancelled owing to lack of entries. That for 12 Cheeses attracted fourteen lots, of excellent quality. The maker of the prize-winning lot was also awarded the Champion Cup presented by the Corporation of the City of London for the best exhibit of Stilton or Wensleydale Cheese.

The Cheddar Classes, with an entry of eighty more than last year, were not up to the usual standard, many were too acid, some not solid in texture, flavour in many cases not being true. The prize winning lots were outstanding and of excellent quality.

Cheddar Truckles were uniformly good, those taking prizes were as near to perfection as one could wish. The class for 2 Cheeses not less than 40 lbs. each attracted ninety-four entries, with the exception of those awarded prizes or cards, the quality and character was most disappointing. Long-keeping Cheese were an excellent class. The cheese displayed that keeping quality which is so desirable. The class for eight Cheeses had the large entry of eighty-eight, a considerable proportion of the unplaced Cheese were very open in texture, and many showing badly cracked skins.

The Small Cheddars were a very indifferent lot.

The Class for Cheddar Makers in the British Empire (overseas) attracted twenty-one exhibits from New Zealand, five from Australia and two South African exhibits. The Gold Medal, The Bledisloe and Hansen Trophies, were awarded to New Zealand Cheeses. The Silver Medal going to Australia. The improvement in Colonial Cheddar was very marked. The Cheese are better made, of better flavour and there is every evidence that the Colonies are out to produce the best article.

Exhibits of Cheshire Cheeses were far in excess of last year. The class for eight Cheeses had an entry of twenty-eight exhibits, of

excellent quality, greater care having been paid to make and finish. Coloured Cheeses of not less than 40 lbs. each brought an entry of thirty-seven, many of the makers well-known prize winners. The first prize Cheeses in this class were outstanding in quality, texture and flavour, later being awarded the Bland Cup, as the best exhibit of Cheshire Cheese, and were placed reserve for the Lonsdale Trophy. Uncoloured Cheeses were a small entry of fifteen lots of great merit. The Judges having some difficulty in making their awards.

The exhibits of Cheshire Long-keeping Cheese were all that could be desired. The Class, open to those who had never won a prize for Cheshire Cheese at any show of the British Dairy Farmers' Association got twenty-seven entries, many of which were good, the makers should be in evidence in future years. The exhibits of Cheese not exceeding 10 lbs. each were of excellent quality and should be encouraged.

Seventeen lots of Ayrshire Dunlops were staged, those gaining awards were typical exhibits of this variety. Flavour was clean and nutty. The First Prize lot was awarded the Lonsdale Challenge Trophy for the best Cheese made in a Farm house.

Factory Cheese made at a factory dealing with 500 gallons of milk daily, had increased from eight entries last year to thirty-five entries of good well made Cheese consisting of Cheddar and Cheshire makes. The Cheddars were of better quality, taking all the Prizes except one.

The entry of Leicester Cheese was small. The prize-winning exhibits were of good flavour.

Lancashire Cheese were of very fine quality, typical in texture and flavour. Some of the exhibits in the Long-keeping Class were off in flavour owing to the hot weather. The prize Cheese, however, were excellent.

Derby. 4 uncoloured Cheese were an entry of eight. The winning lots were very good, but the hot and dry weather had affected the flavour of some of the others.

Double and Single Glosters were very good, a fault in both classes was, holes in the curd.

The Caerphilly Cheese were true to type, nicely finished and of good flavour.

The class for Wensleydale Cheese had few entries, were irregular, and some of them immature. In contrast to last year the classes for Small Hard Pressed Cheese were well filled with some very good Cheese that were quite hard to judge.

The Inter-County Competition was cancelled owing to lack of entries.

Sweet Cream Cheese—a strong class of twenty entries. The quality of the winning exhibits was of a high standard. The packing in several cases left much to be desired, small cheeses of this type should be very neatly packed to attract the consumer.

Unripened Soft Cheese, with fifteen exhibits, some of them good flavoured cheese. The packing and finish of the cheese might be very much improved to attract the public.

Collections of Produce numbered sixteen, many of them showed outstanding and level quality. The general packing was good, but it was noticed that exhibitors who had not used the standard box had failed to produce a package that would stand transport.

BACON AND HAMS.

The class for Rolled Bacon with rind on, did not attract an entry. That for Rolled Bacon without rind being cancelled through lack of entries. The classes for Smoked and Pale Dried sides were also cancelled for the same reason.

The conditions laid down for the Bacon Classes were altered from those prevailing in former years. The number of pigs in exhibits competing for the Whitley Cup, were reduced from six to four. All pigs which did not qualify for Class I., Grade G., of the Pigs Marketing Board Contract were disqualified.

The altered conditions had the effect, of making the sides of Bacon staged, more uniform than those exhibited at any former Dairy Show.

Five Exhibitors competed for the Whitley Cup, each exhibit were pigs of the Large White Breed.

The Class for two Pedigree Pigs got thirteen entries, representing five breeds. The winning sides were all from Large White Pigs.

First Cross Pigs were an entry of twelve. First prize and the Bledisloe Cup going to sides from Large White and Wessex pigs. Second prize sides were from a Large White and Large Black cross. Large White and Middle White sides were placed third.

Recorded Pigs were an entry of five, of which four lots were sent forward, two of the exhibits gained First Class awards and were from the same exhibitor, of Large White and Large Black cross. The best exhibit of those secured 252 points of 300 and was awarded the Pig Recording Challenge Cup and the Harris Cup for the best four sides of Wiltshire Bacon in Classes 92, 93, 94 and 95.

The remaining exhibits were of the Large White Breed and gained Second Class awards.

Bacon—Produced in the British Empire (Overseas) had entries from South Africa, Canada and Australia. First prize was awarded

PARTICULARS OF BACON PIG

Catalogue Number.	Exhibitor's Name.	No. of Pigs.	Breed.	Average Age.		Average Dead Weight.		Live Weight.	Dead Weight.	Percentage Loss Live Weight to Dead Weight.
				Mths.	Days.	lbs.	lbs.	lbs.	lbs.	
CLASS 92.—Two hogs and two gilts—pure-bred.										
1143	J. Pierpont Morgan ...	1	Large White ...	6	10	146	187	146	21.9	
1144	H. R. Davidson ...	3	Large White ...	6	16	154.7	602	464	22.9	
1145	H. Neaverson ...	3	Large White ...	5	17	146.7	573	440	23.2	
1146	A. E. Law ...	3	Large White ...	6	18	161.3	629	484	23.0	
1147	Earl of Radnor ...	2	Large White ...	6	19	143.5	379	287	24.2	
CLASS 93.—One hog and one gilt—pure-bred.										
1148	Earl of Radnor ...	2	Large White ...	6	13	159.5	423	319	24.5	
1149	R. Silcock & Sons, Ltd. ...	1	Large White ...	6	15	144	192	144	25.0	
1151	H. Neaverson ...	1	Wessex ...	5	24	156	202	156	22.7	
1153	Herts. Inst. of Agriculture	2	Large White ...	6	17	152.5	398	305	23.3	
1154	Chivers & Sons, Ltd. ...	2	Large White ...	6	9	151	397	302	23.9	
1155	Chivers & Sons, Ltd. ...	1	Large White ...	6	17	163	209	163	22.0	
1157	H. R. Jasper ...	2	Long White Lop-Eared ...	6	19	146	387	292	24.5	
1159	H. R. Davidson ...	1	Large White ...	6	15	168	217	168	22.5	
CLASS 94.—One hog and one gilt—first cross.										
1164	A. E. Law ...	1	Large White — Middle White	6	13	150	191	150	21.4	
1166	Herts. Inst. of Agriculture	1	Large White—Essex ...	6	12	152	197	152	22.3	
1169	E. Harding ...	2	Large White — Wessex	6	19	150.5	384	301	21.6	
1170	E. Harding ...	1	Large White — Wessex	6	19	164	213	164	23.0	
1172	E. A. Warth... ..	1	Large White — Large Black	6	5	155	196	155	20.9	
CLASS 95.—Two hogs and two gilts—recorded.										
1173	H. R. Davidson ...	1	Large White ...	6	12	164	210	164	21.9	
1175	T. L. Ward ...	3	Large White — Large Black	6	5	166.6	649	500	22.9	
1176	T. L. Ward ...	2	Large White — Large Black	6	6	163.5	421	327	22.3	
1177	Earl of Radnor ...	4	Large White ...	6	10	147.5	783	590	24.6	

CLASSES, DAIRY SHOW, 1934.

Bacon Weight.	Percentage Loss Live Weight to Bacon Weight.	Thinness of Back Fat.	Thickness of Streak.	Length for Weight.	Proportion of Cuts.	Reduction of Fat from Shoulder to Gammon.	Proportion of Lean to Fat on Cut Side.	Shape of Gammon.	Quality (Firmness) of Fat.	Fineness of Bone.	Thinness of Rind.	Deduct for "Seedy-cut" up to 10 points.	Deduct 10 points for each disqualified pig.	Total.	Fecundity		Age for weight.	Carcass Quality.	Total.	Award.
															Numbers weaned.	Average weight at 8 weeks.				
lbs.	lbs.	15 Pts.	10 Pts.	10 Pts.	10 Pts.	5 Pts.	20 Pts.	5 Pts.	15 Pts.	5 Pts.	5 Pts.	10 Pts.	10 Pts.	Pts.	50 Pts.	50 Pts.	100 Pts.	100 Pts.	300 Pts.	
109	41.7	10	9	8	7	4	14	3	12	4	4	—	30	45	—	—	—	—	—	
339	43.6	14	8	7	7	4	15	3	15	3	3	—	10	60	—	—	—	—	—	2nd
324	43.4	10	8	9	8	3	15	4	13	5	3	—	10	68	—	—	—	—	—	3rd
354	43.7	15	8	7	7	4	17	3	13	3	3	—	10	70	—	—	—	—	—	*1st
215	43.2	11	8	7	8	4	14	5	15	4	4	—	20	60	—	—	—	—	—	R.
235	44.5	15	7	7	8	3	12	4	12	4	5	—	—	77	—	—	—	—	—	†1st
104	45.8	10	5	9	7	5	15	4	12	4	4	—	10	65	—	—	—	—	—	
114	43.5	12	8	8	7	3	13	3	14	3	3	7	10	57	—	—	—	—	—	
226	43.2	10	9	8	9	3	11	4	15	4	3	—	—	76	—	—	—	—	—	2nd
218	45.0	12	6	10	8	3	12	5	13	3	3	—	—	75	—	—	—	—	—	3rd
121	42.1	11	8	8	8	4	13	4	15	4	3	—	10	68	—	—	—	—	—	
213	44.9	10	7	7	6	4	11	5	15	3	4	—	—	72	—	—	—	—	—	R.
128	41.0	13	7	5	5	3	15	4	15	2	4	—	10	63	—	—	—	—	—	
109	42.9	12	8	7	8	4	14	4	14	5	4	—	10	70	—	—	—	—	—	3rd
115	41.6	13	9	8	7	4	15	4	12	4	3	—	10	69	—	—	—	—	—	
220	42.8	14	7	9	8	4	15	4	12	3	2	—	10	68	—	—	—	—	—	
122	42.7	13	8	9	8	4	18	5	10	3	3	—	—	81	—	—	—	—	—	†1st
114	41.8	13	10	7	6	4	20	4	12	4	3	—	10	73	—	—	—	—	—	2nd
122	41.9	13	9	7	8	4	15	5	12	3	3	—	30	49	45	39	75	49	208	2nd
373	42.5	15	7	9	8	3	18	4	12	3	3	—	10	72	40	50	90	72	252	§1st
239	43.2	14	7	10	7	4	16	4	10	2	2	—	20	56	45	48	85	56	234	1st
443	43.4	10	7	10	7	5	16	5	14	3	3	—	—	80	40	31	60	80	211	2nd

*Whitley Cup.

†Beale Cup

‡Bledisloe Cup.

§Harris Cup and Pig Recording Cup.

a Canadian exhibit, Second prize going to South Africa. The bacon was of excellent quality.

Hams were of a high standard and it was very difficult to determine the final placings, more attention had been paid to what the public require.

BUTTER.

Entries of Butter were below those of past years, many of the exhibits were of good flavour, in others the texture was weak. The prize-winning butters were of excellent quality. In the Keeping Quality Class, some of the exhibits were equal to freshly made butter but others had deteriorated badly.

Butter made from Goats milk showed a decided improvement, but more care might be given to the "make up."

Fancy and Ornamental Butter were very attractive and of a high standard.

Salted Butter produced in the British Empire (Overseas) had an entry of forty-seven; South Africa sending five, the other lots were from Australia, with a few exceptions the exhibits were of a very satisfactory quality. Unsalted Butter with an entry of forty-three were even in quality, texture and packing, and could be classed as choicest or Kangaroo quality.

CREAM.

Cream Classes had a moderate entry of excellent quality, a few of the lots were damaged in transit.

BOTTLED FRUITS, VEGETABLES AND JAMS.

The exhibits in this section were of high quality, grading and packing were excellent. The class for Three Jars of Jam was popular, attracting twenty-two entries.

HONEY AND WAX.

A record entry of Honey. The Light Honey was exceptionally good, while extracted Heather Honey was of outstanding merit, owing to the favourable weather Dark and Medium Honey has been very good everywhere. Sections and frames of Comb Honey were also good. The class for interesting and instructive exhibits was disappointing.

INVENTIONS.

Inventions were a feature of the Show. The Gold Medal for the best New Invention relating to the Dairy Industry, was awarded the Dairy Supply Co., for their Foamless Power Cream Separator.

Four Light Portable Weighing Machines suitable for use on Pig Farms were exhibited. First and second prizes going to George Salter & Co., Ltd.

JUNKET MAKING.

The competitions were keenly contested, many capable makers

taking part. In the Championship Contest Miss Jane M. Olde, Boscastle, was successful in winning the *Daily Mail* Challenge Bowl and the Association's Silver Medal.

BUTTER MAKING CONTESTS.

The Butter-making Competitions were well patronized despite the low price prevailing for the finished product. The work was well done in the sections, in a few cases the time taken was too long. The grains were good and the butter nicely finished. In the Champion Contest the general standard of Butter-making was very good. The first prize and the "Desborough" Challenge Cup were awarded to a Cornish maker Miss A. O. Mitchell. Second prize going to Miss G. D. Matthews, Herefordshire.

MILKERS' CONTEST.

Ten Competitors competed in the Class for Boys and Girls under 18 years of age, many of them wasted time in over-stripping their cows. Competitors over 18 years of age were divided into four sections, of the fifty-seven entrants, only five were absent. The preparation of the cows was uniform and milking of a high standard throughout. Herdsmen attending cattle at the Show have a special Class. Eleven took part and acquitted themselves in a workmanlike manner. In the Champion Contest the striking feature was the efficiency of those taking part and the cleanliness of the sediment pads. Miss M. Davies of Pembrokeshire secured the first prize, The "H. G. Howard" Cup and the Gold Medal of the Association. Second prize and Silver Medal were awarded to Mr. W. Edge of Chester.

The contests attracted large crowds of keenly interested spectators.

COW JUDGING CONTESTS.

Teams of Students from Agricultural Colleges, Farm Institutes and County Council Classes were an increase of eight over last year. The Students were required to place groups of four cows of the Shorthorn, Ayrshire and South Devon breeds. The Judges report that the allocation of position, was remarkably well done, and in many cases, where the animals were not placed rightly, the reasons for the diversion were quite intelligent. Without a single exception the competitors gave their reasons and points of observation in an audible manner and the words used were appropriate. The Challenge Cup was won by the team from Llysfasi Farm Institute, Ruthin, Reserve position going to the team from the Surrey County Council Agricultural Dept.

Eighteen teams competed for the Silver Cup, presented by *The Farmer and Stockbreeder and Agricultural Gazette*, for the best team of three members from Young Farmers' Clubs, affiliated

to the National Federation of Young Farmers' Clubs. The Cup was won by the Somerset team. The Medals offered by the British Dairy Farmers' Association to individual competitors gaining the highest marks were awarded to Miss Betty Thomas of the Surrey team, who took first place and Silver Medal. The second and third positions and Bronze Medals were gained by Mr. D. L. Davies of the Monmouthshire team and Mr. J. Thompson of the Durham team respectively. Bronze Medals were also awarded to Miss P. Busby of the Buckinghamshire team and to Mr. F. J. King of the Somersetshire team who tied for fourth place.

The Poultry Judging Competition was held on the closing day of the Show, the leading place and Cup was gained by Chiddingfold, Surrey, with the Croft team reserve. The Association's Silver Medal for the highest individual score was awarded to Mr. F. Dean of Ringmer, Sussex. Bronze Medals were won by Mr. W. Thomas and Miss Betty Thomas, both of Chiddingfold. The Judging Contests are keenly contested. The persons responsible for the training given, are to be complimented.

On Wednesday the Show was visited by the Acting Lord Mayor of London and party. An inspection was made of the exhibits, those that had been awarded the Cups presented by the Corporation of the City of London received marked attention. The High Commissioner of New Zealand was present on Thursday morning and inspected the produce section, where a number of New Zealand exhibits are staged.

The presentation of the "Lonsdale" Perpetual Challenge Trophy took place on Thursday afternoon, when The Earl of Lonsdale handed the Trophy to the representative of Messrs. Gavin and James Love, Port Logan, Stranraer, whose exhibit of four Ayrshire Dunlop Cheeses were adjudged to be the best from England, Scotland or Wales.

Mr. Cecil Ball as owner of the Cow gaining the greatest number of points on Inspection, in the Milking Trials and Butter Tests, was presented by the President (Mr. G. Titus Barham) with the Association's Supreme Individual Challenge Trophy won by his Friesian exhibit "Oakham Dainty."

The "Desborough" Perpetual Challenge Cup for the Champion Butter Maker was presented by Mrs. Whitley to Miss A. O. Mitchell of Cornwall.

Mrs. Whitley also presented the *Daily Mail* Perpetual Challenge Bowl for the Champion Junket Maker to Miss Jane M. Olde, Boscastle.

The cloths and towels in daily use by the Herdsmen were dealt with most efficiently by the electric washer and drier loaned by Messrs L. G. Hawkins & Co.

The Milk Cooler supplied by Messrs. Frigidaire Limited worked exceedingly well. The thanks of the Council are due to both firms.

NEW AND IMPROVED INVENTIONS

DAIRY SHOW, 1934

By J. G. STAPLETON and C. N. GOODE.

DAIRY APPLIANCES.

Class 149.—**ANY NEW APPARATUS OR INVENTION** *relating to the Dairy Industry, or one showing distinct and practical improvement, especially as to saving of labour, not eligible for competition in any other Class and not previously having received an Award at any Show of the British Dairy Farmers' Association.*

PRIZES.—A **GOLD MEDAL** is offered for the best New Invention in Class 149 considered by the Judges to be of sufficient merit. The Judges are empowered to award a **SILVER** or **BRONZE MEDAL** to any exhibit showing sufficient merit. The Judges may call upon the Exhibitor to make a practical test in their presence.

The Dairy Supply Co., Ltd., entered the "Alfa Laval" hermetically enclosed foamless power cream separator and the "Alfa Laval" hermetically enclosed foamless cold milk power clarifier.

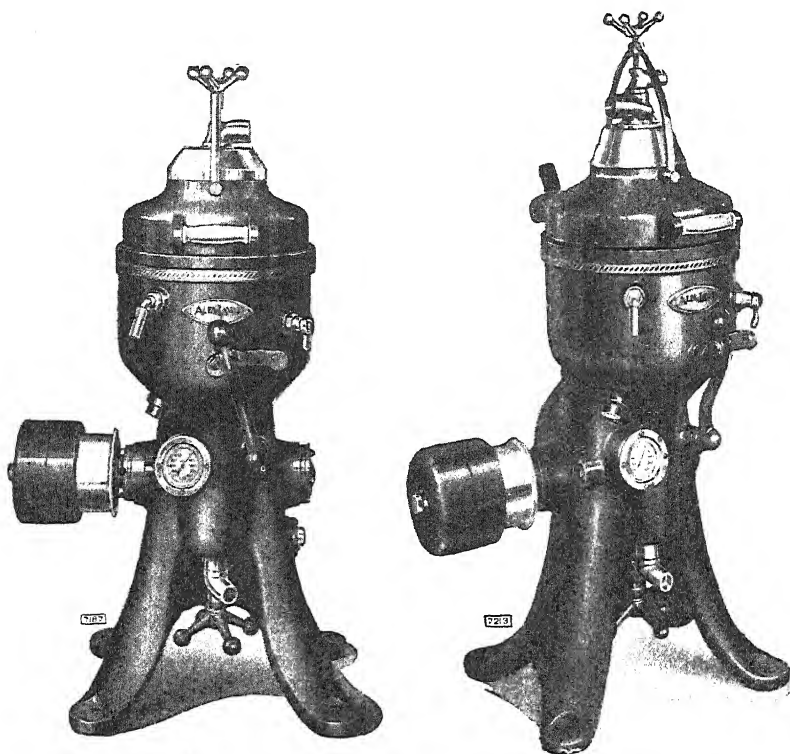
The invention is applied to and operates on the Cream separator and the power clarifier in the same way. It consists of a renewable expanding seal which effects a closed airtight seal to the supply and discharge lines of the machines. The machines are fed by pump and in both cases the milk is treated under pressure. The major claim of the entrants in the application of this invention is the entire elimination of foaming during processing. A full statement of claims is attached. The machines were observed over a period of 4 hours when working at full capacity.

Milk was processed at the rate of 660 gallons per hour over a period of 4 hours during which the capacity was fully maintained. There was no frothing whatever on the cream or separated milk and the regulation of the fat percentage of the cream during running by adjustment of the pumping was effective.

The clarifier was working at the rate of 1,300 gallons per hour with milk at a temperature of 45° F. There was no frothing. The claims regarding cream line, and the efficiency of clarification could not be tested, but it was stated by the United Dairies Plant Manager, that tests carried out at their laboratory over the past two months were very satisfactory.

The construction of the device, and the method of mounting is good and easily cleaned. It was stated that the seals were renewed about every 60,000—100,000 gallons of milk, and the cost was 6/- to 7/- per dozen.

The major claims of the invention were fully substantiated in both cases but its application is only suitable to large dairies, and the judges awarded this entry the Gold Medal for the best new invention.



THE "ALFA LAVAL" HERMETICALLY ENCLOSED FOAMLESS POWER CREAM SEPARATOR AND COLD MILK CLARIFIER.

Separator. (1) The skimmed milk and cream are both free from foam.

(2) The percentage of fat in the cream can be regulated immediately whilst the machine is running simply by adjustment of the regulating cock on the cream outlet pipe.

(3) The machine is entirely enclosed so that the milk, skimmed milk and cream do not come into contact with air during the separating process.

(4) The milk is fed into the machine under pressure from a pump and the skimmed milk and cream can be delivered direct from the machine when desired to a considerable height equal to a head pressure of approximately 10 lbs. or under normal conditions to a height of 23 feet. This available pressure also allows the skimmed milk and cream to be taken direct to a pasteuriser or cooler if desired without the necessity for another pump.

Clarifier. (1) The clarified milk is free from foam.

(2) This machine will clarify cold milk at a temperature as low as 40° as effectively as the standard type of clarifier will clarify warm milk, thus dispensing with the necessity for preheating the milk. This also permits the milk to be clarified if desired before it is processed in the pasteurising plant.

(3) The machine is entirely enclosed so that the milk does not come into contact with air during the clarification process. This construction also permits the machine to be installed to work in conjunction with any type of enclosed pasteurisation and cooling machinery.

(4) The cream line of milk clarified in this machine is not impaired.

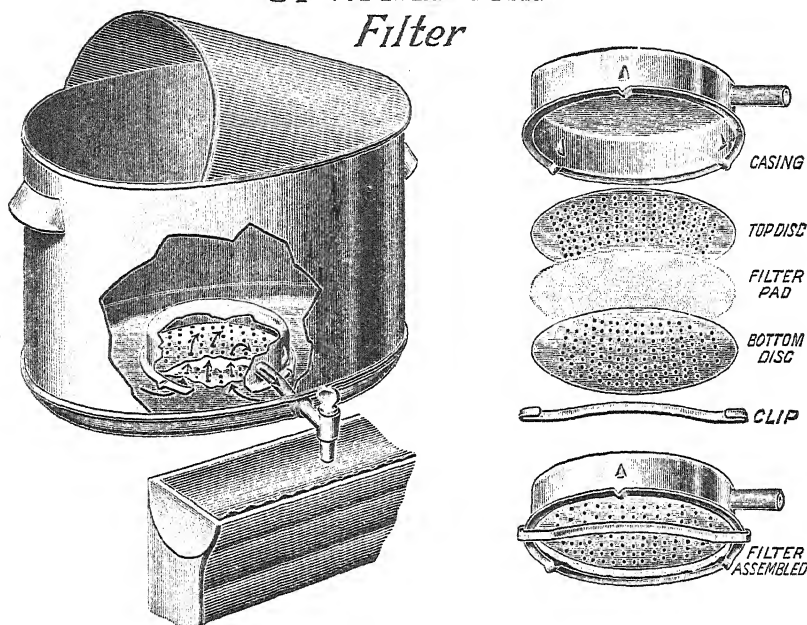
The "Gascoigne" upward milk filter entered by Messrs. Gascoignes (Reading), Ltd., consists of a casing with diameter 6½ inches and depth 1½ inches. A top and bottom disc between which the filter pad is placed are clipped to the casing. In the side of the casing is the outlet ¾ inch diameter fitted with a piece of rubber tubing connecting it with the outlet of the milk tank.

The idea incorporated in this filter is good. The milk passes upwards through the filter so that there is no pressure of milk on the filter medium. Heavy particles of dirt fall to the bottom of the milk tank and are not being constantly washed by incoming milk. The whole of the milk tank is available to receive milk and thus no delay is caused to the milkers by waiting for the passage of milk through the filter.

A disadvantage of the filter being at the bottom of the tank is apparent when there is a blockage of the filter medium due to viscous milk. Other minor drawbacks have been noted but with slight

alterations in construction it is possible that these will be overcome and the filter made a good practical piece of equipment.

-THE NEW WAY- The GASCOIGNE "UPWARD" Milk Filter



Messrs. Graham Enock Manufacturing Co., Ltd., entered their "Gem" Unified Milk Treatment Machine.

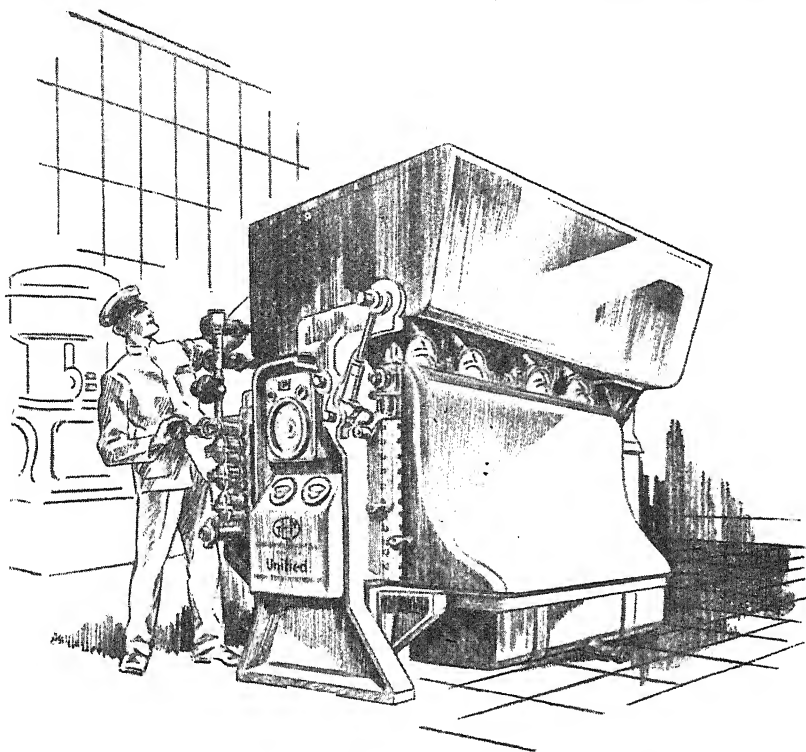
This machine is designed to heat, filter, hold and cool milk at various rates according to the stated capacity of the machine. It was inspected at Fleetwood Co-operative Dairy, Fleetwood on 14th September, when the plant was seen in action throughout the day's run.

The invention consists of the compact assemblage of the various units required for regenerative heating, heating, filtering, holding and cooling together with temperature control and recording devices.

The various processes are effected by well established methods and the only new feature appears to be the actual way in which the parts are assembled in what appears to be one machine. One of the claims by the makers is that costs of processing are reduced

to a "practical minimum." We are not in a position to criticise this claim. At the same time we would point out that the regenerative system is no better than is found in other plants which incorporate this feature.

The gravity flow system is used after holding and is obtained by erecting the machine on a high site. The heater is very efficiently controlled by an extremely sensitive temperature regulator (made



THE "GEM" UNIFIED MILK TREATMENT MACHINE.

by Bristols). The variation in the temperature of the milk during the period under observations was within 10°F. except for a few moments when starting up and again when changing over to regeneration. These very slight variations were insignificant and did not influence the holding temperatures. There was, however, considerable loss of heat from the holding tanks. A comparison of the temperature of the milk leaving the heater and after holding showed a loss of $5\text{--}6^{\circ}\text{F.}$ during the first round. The average loss during the second round was $4\text{--}5^{\circ}\text{F.}$

The regulations governing the pasteurisation of milk allow for 5° variation during processing. It would appear therefore that under certain conditions this machine may fail to comply with existing regulations. The atmospheric temperature of the dairy during the observation period was about 65°F. It is to be expected that greater variation would occur in cold weather.

The compact nature of the plant is to be commended but there are other more important details to consider, for instance there does not appear to be any means for recording or adjusting the temperature of the milk once it is in the vats. It is true that certain other plants have this failing but on the other hand both features do exist.

No new features of outstanding merit are incorporated. The compact nature of the plant for which so much is claimed does not in our opinion add to the efficiency of the processing.

There is no ready means of recording the temperature of the milk once it has left the heater. It was no doubt due to this fact that milk was being insufficiently heated at this dairy.

The holding tanks cannot be easily inspected while plant is in use. Easy inspection is desirable to occasionally check emptying and filling.

The "Scotia" Bottle Brushing machine, entered by Messrs. Clare's has been designed for the retail Dairyman or Producer Retailer who brushes from one to two thousand bottles per day and who requires these dealt with as cleanly and efficiently as possible.

The "Scotia" Bottle Brushing machine has three wood centred brushes, each being positively driven by a gearbox from which a primary drive is taken to an electric motor, fast and loose pulley or steam turbine.

The "Scotia" machine washes the inside and outside of two bottles at the same time, the two outside brushes dealing with the inside of the bottles and the large centre brush cleansing the outsides of each bottle. Being geared, the brushes rotate in opposite directions, and the gears are totally enclosed in an oil bath.

The primary drive from the gearbox to the electric motor or turbine is by leather "V" belt, similar to the dynamo drive on a car.

The three brushes are fitted to the shafts by brass collars with a bayonet catch, the sleeves being rubber covered it should be emphasized that the brushes do not revolve at high speed, which means longer life for the brushes. The brush shafts are fitted with ball-

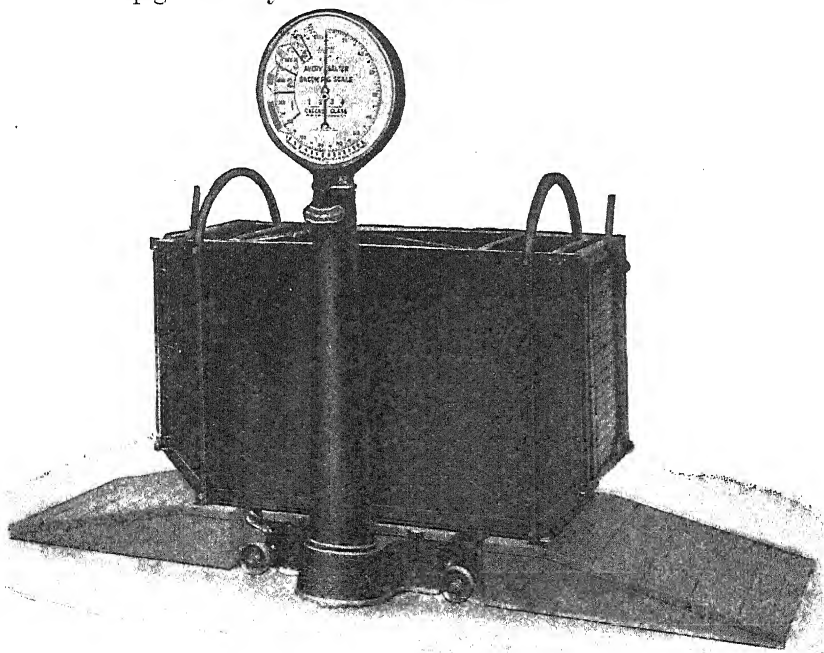
bearings running in oil throughout ensuring long-life and trouble-free service. The "Scotia" Bottle Washer is practically noiseless in action.

The machine can be fitted to existing tanks by the brackets supplied or fitted by reversing the same brackets to the Dairy wall if preferred.

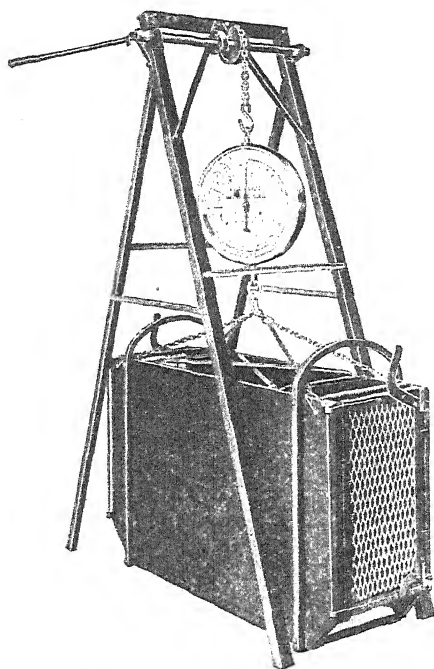
Class 150.—LIGHT PORTABLE WEIGHING MACHINE, *suitable for use on a Pig Farm and capable of weighing up to 300 lbs. Price in relation to efficiency to be taken into consideration.*

In this class four entries were received and the Silver and Bronze medals offered as 1st and 2nd prizes were awarded to Messrs. George Salter & Co., Ltd.

The Avery-Salter Bacon Pig Scale, type No. A/S4 can be located at the end of the dung passage opening into an enclosure put up on weighing days and consisting of hurdles and packing cases. The herdsman controls flow of pigs from the feeding pens through the dung passage to the scale. Only two men are required to operate this installation, despite the high speed of weighing obtained—not even the pig is unduly concerned or worried.



THE AVERY-SALTER 'BACON PIG SCALE.
Type AS4



THE AVERY-SALTER BACON PIG SCALE.
Type AS2.

A steady and clear weight indication is obtained.
The record sheet is very aptly placed for easy reference.
The sequence of operation is :—

1. Pig driven from feeding pen to scale.
2. Ear number read.
3. Pig weighed.
4. Record entered.
5. Pig released into hurdles.
6. Return to fattening pen.

After the complete litter has been weighed they run back through the scale pen into their fattening pen.

In some other types of pig houses they would return via a separate passage without going through the scale.

The quickest case recorded by watch for this complete sequence was 15 seconds.

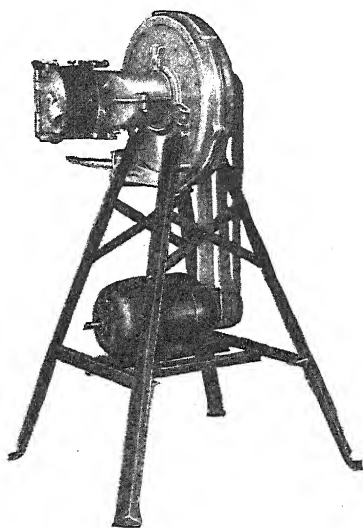
A watch record for a pen of 7 pigs was $5\frac{1}{2}$ minutes, equal to 76 per hour.

The Farm Manager allows for 30 to 40 per hour, including all subsidiary work, such as running about the farm for special animals or equipment.

Class 151.—**ANY NEW APPARATUS OR INVENTION** relating to the *Poultry Industry*, or one showing distinct and practical improvement, especially as to saving of labour, not eligible for competition in any other Class and not previously having received an award at any Show of the *British Dairy Farmers' Association*.

PRIZES.—The Judge is empowered to award a **SILVER** or **BRONZE MEDAL** to any exhibit showing sufficient merit. Exhibitors may be called upon to make practical tests in the presence of the Judge or his Representative.

This was quite an interesting Class and illustrated how important the Poultry Industry has become of late years as a branch of Agriculture. The Bingham Poultry Plucker was awarded a Silver Medal for the excellent way in which it not only plucks but also effectively removes the stubs from the bird—a distinct improvement.



THE "BINGHAM" POULTRY PLUCKER.

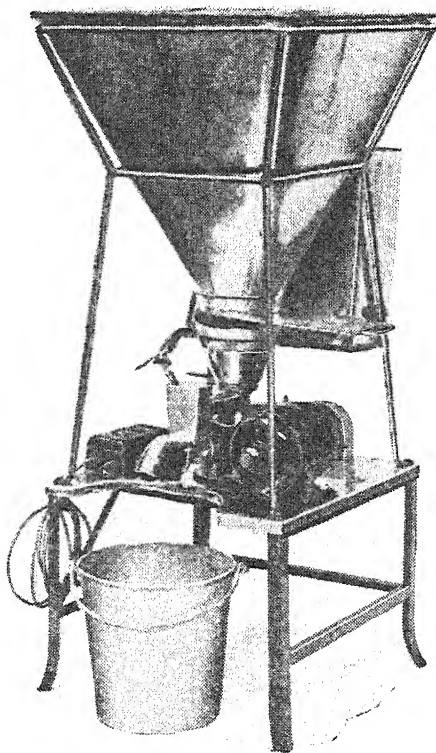
The Hearson's Electric Battery Brooder was awarded V.H.C. This is a strongly constructed all Metal Brooder and has the advantage that the heating of each compartment is under separate control. The method of using sanitary paper rolls for the droppings is also a great advantage.

The Ferranti Electric Brooder Radiator, entered by Mr. W. Gardner, is a very useful type of Brooder, which can be adapted under various conditions.

It is easy of management, heating is steady and can be easily regulated and fire risks are practically non-existent. The price is moderate, and it is very useful for small units. This was awarded a Bronze Medal.

The Revill and Grigg Egg Grader is an ingenious machine, grading eggs into five grades by weight. It is moderate in price and can be run by an electric motor or by clockwork which is a great advantage where electric power is not available. This was awarded V.H.C.

A Wet Mash Mixing Machine, entered by Messrs. Cope & Cope, Ltd., does its work well and will deliver a continuous stream of wet



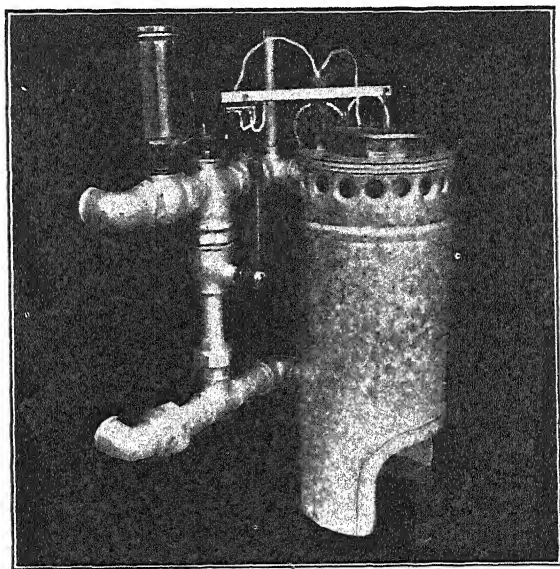
WET MASH MIXING MACHINE.

mash properly mixed to any desired consistency at the rate of 3 cwts. dry mash per hour, and can be run by a boy.

This was considered a very useful machine and was awarded a Bronze Medal.

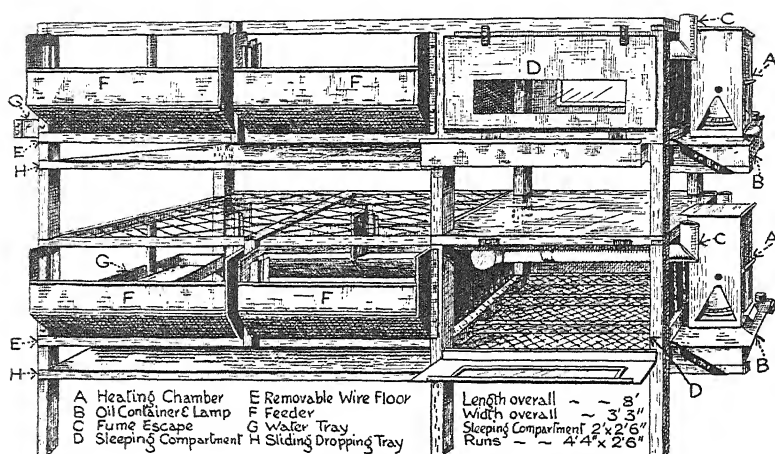
The Secura Incubator Co., Ltd. exhibited a Special New Hot Water Incubator, which can be heated by oil, gas or electricity, in conjunction with each other so that if the electric current failed, the oil lamp can be at once put in action and there would be no loss of heat.

This is a valuable development in this type of Incubator and was awarded a Silver Medal. The machine is well constructed, and the method of distributing air is excellent.



THE "SECURA" HOT WATER BOILER.

Mr. F. W. Reddaway exhibited a "Regal" Fumeless Brooder, with outside fire-proof lamp and with movable floor to admit more or less air. May be used in any farm building for chicks or ducks. It is moderate in price and very suitable for the general farmer. Awarded a Bronze Medal.

**"REGAL" FUMELESS BROODER.**

The U.F.R.S. Works exhibited a small encased metal heater, designed to use the minimum of oil and producing a steady and consistent heat without danger of firing. Awarded H.C.

Curfew Electric Heaters entered an Electric Incubator 50 to 240 capacity. The heater is arranged so that the heat is evenly spread over the whole of the egg drawer, lined with galvanised metal to conserve moisture. Adjustable ventilators are arranged so that correct humidity can be maintained. A nursery is arranged under the hatching drawer. Awarded V.H.C.

Ellis Brooder Company were showing a specimen Pen for single birds in an egg factory; it is also constructed in set of 8 pens, which can be tiered to make 3 sets thus economising space. This method has developed considerably during the past 12 months and seems likely to become a permanent feature in egg production. The Pen on view was awarded V.H.C.

THE DAIRY SHOW MILKING TRIALS OF 1934

By H. G. ROBINSON, M.Sc.

There were no marked changes in the arrangements for the Milking Trials of the 1934 Show from those of the previous year. The increase in the number of exhibits tended to tax the capacity of the Gilbey Hall, especially as suitable spaces had to be provided for judging and other purposes. This congestion, however, was not at the expense of the animals' comfort.

The normal routine of thrice-daily milking worked smoothly, and the steps taken at previous shows to maintain a desirable standard of cleanliness in the production of the milk were continued. The uniformity of the classes as a whole was disturbed somewhat by the separate accommodation provided for animals from herds licensed by the Ministry of Health for the production of Certified and Grade A. (Tuberculin-Tested) milk. This is unavoidable, unless and until all cattle exhibited attain this standard of perfection. It is worthy of note that the entries from tuberculin tested herds continue to increase. There were no fewer than 79 animals from licensed herds, divided up as follows:—

Pedigree Dairy Shorthorns ...	10	or	22.2	per cent of total
Non-pedigree do. ...	2	or	15.3	„ „ „ „
Friesians	5	or	20.8	„ „ „ „
South Devons	10	or	62.5	„ „ „ „
Red Polls	14	or	41.1	„ „ „ „
Ayrshire	15	or	46.8	„ „ „ „
Guernsey	10	or	45.4	„ „ „ „
Jersey	10	or	29.4	„ „ „ „
Kerry	3	or	25.0	„ „ „ „

The general level of merit as determined by average performance was above the average of recent shows, though there were few particularly spectacular performances. There were only four changes in the list of record performances, these being achieved in the classes for pedigree Dairy Shorthorn heifer, Lincolnshire Red heifer, Devon cow and Ayrshire heifer.

In view of the developments that have taken place in the average performance of production in several breeds the time would appear to be opportune for a revision of the Class Standards in certain cases. Some breeds too are handicapped by a class standard that is fixed

above their present capacity, but particular importance is given to the general question since certain of the inter-breed awards are based on points in which existing class standards may play an important part.

The competition in the Lincolnshire Red Shorthorn breed was weakened by the withdrawal from the show of six animals entered by Messrs. John Evens & Son, owing to an outbreak of foot-and-mouth disease in Lincolnshire. Devons and Kerries were again represented, but the classes for Blue Albions attracted no entries.

Method of Awarding Points.—The awards in the different classes were made according to the following scale of points as in previous years :—

One point for every pound of milk, taking the average of two successive days' yield.

Twenty points for every pound of butter fat produced.

Four points for every pound of non-fatty solids.

One point for every ten days since calving, deducting the first 40 days and with a maximum of twelve points.

Deductions are made of 10 points each time the percentage of fat falls below 3 per cent., and 10 points each time the non-fatty solids fall below 8.5 per cent.

Disqualification for any class award or trophy on Inspection, in the Milking Trials and in the Butter Tests, follows when at any one milking, the milk yielded by any cow or heifer falls below 3 per cent. fat and at the same milking also falls below 8.5 per cent. non-fatty solids.

Number of Entries.—These were well up on recent shows, the number being 393 in comparison with 327 in 1933.

Number of Competitors.—The number of animals competing in the trials was 251. Reference has been made in recent reports to the tendency for the number of actual competing cows, contrasted with the original entries, to increase. The percentages at the last ten shows are as follows :—1925—52.1 per cent. ; 1926—55.5 per cent. ; 1927—no cattle present ; 1928—58.5 per cent. ; 1929—58.4 per cent. ; 1930—62.7 per cent. ; 1931—60.7 per cent. ; 1932—62.2 per cent. ; 1933—62.1 per cent., and 1934—63.8 per cent.

Number of Breeds Represented.—The classification caters for thirteen distinct breeds and all but one were represented. Blue Albions for the third year in succession were absent.

Highest points gained by a Cow.—It was predicted last year that a total of over 200 points may now be expected annually from the best cow. This figure was only comfortably reached by Mr. Cecil Ball's British Friesian "Oakham Dainty" (No. 132) with 201.99 points, and some 13 points under the record.

Highest Yield of Milk.—"Curbridge Jessamine" (No. 121) gave the highest yield of milk, the average for the two days being 99.65 lbs. This cow's milk was deficient in solids-not-fat at each milking upon which tests which made. The record of 102.65 lbs. was made at the 1929 Show.

Disqualifications.—The number of animals disqualified for competition for any award by reason of failure to attain 3.0 per cent. of fat and 8.5 per cent. of solids not fat respectively at the same milking was six. These represented three Dairy Shorthorns, two British Friesians and one Ayrshire.

As in previous years the points earned by the disqualified animals are included in the calculations for the averages for their respective classes in Tables I, II, III, V, and VI.

The Calculations: Burroughs' Calculators.—Through the kindness of the Burroughs Adding Machine Co., Ltd., of 136 Regent Street, London, W. 1, the Milking Trial Judges and their staff again had the assistance of two skilled operators and electric calculating machines in the work of determining the points gained by the individual animals. With this assistance the class awards were posted on the Tuesday evening.

NOTES ON THE CLASSES 1 TO 32.

COWS AND HEIFERS.

Class 1. Pedigree Dairy Shorthorn Cow over 5 years old.—Entries 17; present 8. The number of cows present showed a decrease of three on the previous year, but the level of performance was better than at any previous shows. One cow was disqualified through a deficiency in fat and solids-not-fat at one and the same milking, though this same cow was above the class standard on total points. The winner was Mr. C. J. Allday's "Fothering Water Baby" (No. 3) with 174.05 points. This cow also won the "Desborough" Cup awarded to the animal gaining the highest points in the Milking Trials in Classes 1 and 2. Second prize & reserve for the Desborough Cup went to Mr. E. Uwins Gillate's "Orfold Fancy 13th" (No. 14) with 164.28 points.

Class 2. Pedigree Dairy Shorthorn Cow over 3 and under 5 years.—Entries 26; present 17. This class showed a considerable strengthening in numbers over previous years, and in view of this the average performance was remarkably good, while every competing animal reached class standard. The winner was Mr. J. Onslow Fane's "Steventon Grace" (No. 25) with 156.04 points, while second prize was won by Mr. W. H. Vigus' "Revels Roan Annetta" (No. 42) with 152.37 points.

Two extra prizes of £5 each were offered jointly by the Shorthorn Society and the Dairy Shorthorn Association for the two cows in Class 2 gaining most points on Inspection and in the Milking Trials. On this basis, the winners were Nos. 30 and 32—Sir Mark Collet's "St. Clere Millicent 11th" and "St. Clere Lady Wellesley."

Class 3. Pedigree Dairy Shorthorn Heifer.—Entries 34; present 20. As in 1933 this was the largest class in the Show and a very good standard of performance was secured. Two animals failed to attain the class standard of 66.7 points and one was disqualified. The first prize was won by Sir Mark Collet's "St. Clere Ruby 6th" (No. 61) with 132.75 points, which constituted a record for this particular class, the previous best being 112.9 points in 1932. The second prize went to Mr. J. Onslow Fane's "Steventon Dog Rose" (No. 56) with 114.70 points. These two animals won the two extra prizes of £5 each offered by the Breed Society as in Class 2.

Class 4. Non-Pedigree Dairy Shorthorn Cow.—Entries 12; present 8. Rather an interesting legacy of the days when these cattle were considered more representative dairying animals than their full pedigree associates, exists in regard to the higher class standard in operation in this class by comparison with that in Class 1. The competition was better than last year with a much higher average of points, though one cow was disqualified. The first prize went to an outstanding cow in Mr. B. P. Stockley's "Fanny" (No. 80) with 189.67 points to which a close second was Mr. T. B. Bucknell's "Snowball" (No. 82) with 181.04 points.

An extra prize of £10 offered jointly by the Shorthorn Society and the Dairy Shorthorn Association for the cow in Class 4 gaining most points in Inspection and the Milking Trials was won by Mr. T. B. Bucknell's "Snowball" (No. 82). This cow also won the extra prize of £25 offered by the same societies for the animal in Classes 1 to 5 gaining most points on Inspection, in the Milking Trials and Butter Tests, the points calculated as for the "Spencer" Cup. Mr. B. P. Stockley's cow "Fanny" (No. 80) was reserve.

Class 5. Non-Pedigree Dairy Shorthorn Heifer.—Entries 6; present 5. This class showed a slight improvement in numbers on the previous year and the standard of performance was almost as good as last year's record. The winner was Mr. J. H. Robinson's "Ascot's Daisy" (No. 90) with 111.98 points, Mr. H. Brazier's "Fillpail" (No. 95) being second with 104.76 points.

Class 6. Lincolnshire Red Shorthorn Cow.—Entries 10; present 3. The unfortunate withdrawal of three cows, that actually arrived at the show, from this class on account of a foot-and-mouth disease outbreak in Lincolnshire made the representation lighter than the normal. The standard of performance was not particularly

good, one cow failing to reach the class standard of 100 points. The winner was Mr. F. Sainsbury's "Bendish Poppy 9th" (No. 104) with 131.44 points, with Mr. F. Russell Wood's "Bendish Sunbeam 12th" (No. 103) second with 105.74 points.

Class 7. Lincolnshire Red Shorthorn Heifer.—Entries 8 ; present 4. This promised to be a very representative class, but as in Class 7 three heifers were withdrawn from the show owing to foot-and-mouth disease restrictions. Notwithstanding this a much better level of performance was secured than in previous years. The first prize was won by Mr. F. Russell Wood's "Bendish Ada 15th" (No. 109) with a class record of 118.39 points. She was closely followed for second prize by Mr. F. Sainsbury's "Wratting Queen" (No. 112) with 117.75 points. Both these heifers exceeded the previous best class record which was 109.99 points set up at the 1933 Show.

Class 8. British Friesian Cow over 5 years old.—Entries 22 ; present 12. The performance in this class has continued to improve, the average for the class being 163.18 points compared with 155.84 points in 1933. This makes the class standard of 110 appear as a relatively low figure for this breed. Apart from one cow that was disqualified, all reached the class standard. There were no performances of a record breaking character, though the winner was Mr. Cecil Ball's well-known cow "Oakham Dainty" (No. 132) with 201.99 points. Second prize was won by Strutt and Parker (Farms), Ltd.'s "Lavenham Chancery 3rd" (No. 126) with 181.59 points. It is of interest that Mr. Ball's "Oakham Dainty" gained the B.D.F.A. Supreme Individual Championship Trophy, the Barham Cup, the Spencer Cup, and the Shirley Cup. As the winner of the Spencer Cup, her owner received the Special prize of £100 offered by the British Friesian Cattle Society.

Class 9. British Friesian Cow over 3 years and under 5 years.—Entries 15 ; present 6. The representation in this class was much below the average, but the performance was well above the average. All the competitors reached the class standard of 91.7 points, most of them with very comfortable margins to spare. The first prize was won by Mr. C. W. H. Glossop's "Lund Bleanchty's Juliana" (No. 137) with 164.61 points, while the second prize went to the Piddington (Northants) Estates, Ltd., "Piddington Flora" (No. 146) with 161.92 points.

Class 10. British Friesian Heifer.—Entries 9 ; present 6. The performance level in this class was barely up to the average. One animal was disqualified for a deficiency of fat and solids-not-fat at one milking. The winner was Mr. G. J. Caddey's "Egham Thelma 4th" (No. 155) with 109.91 points, the same owner's

"Egham Titania 6th" (No. 156) being second with 105.52 points. These figures had been greatly exceeded at each of the previous four shows.

Class 11. South Devon Cow over 5 years old.—Entries 8; present 6. Although slightly reduced in numbers present, the standard of performance was well above the average. The improvement over last year's poor record was gratifying, all cows reaching class standard in respect of points. The first prize went to Mr. J. Rossiter's "Graceful" (No. 161) with 150.08 points, while Dartington Hall's "Dartington Vera" (No. 166) was second with 140.54 points. The average butter fat percentage recorded in this class was 4.89 per cent. with an average yield of 60.68 lbs. per cow. The average live weight of the cattle in this and the next class was the heaviest in the show.

A Silver Challenge Cup presented by the South Devon Herd Book Society for the cow gaining the greatest number of points on Inspection, in the Milking Trials and Butter Tests was won by Miss Jervoise Smith's "Crocus" (No. 160).

Class 12. South Devon Cow over 3 years and under 5 years.—Entries 7; present 5. This class put up its best performance since its institution three years ago. Making allowances for the age differences between this and the previous class the performance was slightly better. The winner was Dartington Hall's "Dartington Hall Gentle 8th" (No. 169) with 145.22 points, while Mr. George Will's "Milkmaid 5th" (No. 173) was second with 144.48 points. "Dartington Hall Gentle 8th" was also reserve for the South Devon Herd Book Society's Challenge Cup.

Class 13. South Devon Heifer.—Entries 7; present 5. This class provided a marked improvement on last year's performance, all the competitors attaining the class standard of 66.7 points. The first and second prizes were won by Dartington Hall's "Dartington Juliet" (No. 178) with 111.93 points and "Nervous Alice 2nd" (No. 176) with 109.12 points respectively.

Class 14. Devon Cow.—Entries 4; present 4. After a lapse of two years sufficient entries were made to ensure representation at this show and a satisfactory average of points for the class was returned despite the fact that two of the four competing animals failed to reach class standard. The first prize was won by Mr. H. G. Mayo's "Corton Comet" (No. 184) with 160.20 points, which established a record for the breed. This cow also won the "Busk" Cup offered for the Devon cow gaining the greatest number of points on Inspection, in the Milking Trials, Butter Tests and for the Milk Record for the year ending October 1, 1934. An interesting feature of this cow's performance was her yield of 61.10 lbs. of milk with a

butter fat content of 6.15 per cent. Second prize in this class went to Mr. A. J. P. Baker's "Woodrow Fancy" (No. 183) with 125.77 points.

Class 15. Red Poll Cow over 5 years old.—Entries 14; present 12.—The representation of this breed was most satisfactory and the performance level showed a desirable improvement over the two previous years. The class was let down by one cow, that failed to reach the class standard of 100 points, otherwise there was marked uniformity. The winner was Lt.-Col. Sir Merrik R. Burrell's "Knepp Prudence 7th" (No. 187) with 164.99 points, the second going to Mr. C. H. Cearn's "Weston Peggy" (No. 191) with 155.01 points. The "Thornton" Challenge Cup awarded to the Red Poll cow or heifer gaining the greatest number of points on Inspection, in the Milking Trials and Butter Tests, was won by Mr. Stuart Paul's "Samford Witchgirl" (No. 197), the reserve being Mr. Cearn's "Weston Peggy" (No. 191).

Class 16. Red Poll Cow over 3 years and under 5 years old.—Entries 11; present 9. There were no remarkable performances in this well-supported class, two animals failing to attain the class standard of 83.3 points, while the general level of merit was below the average of recent years, though slightly better than at the previous show. The first prize was won by Mrs. H. D. Lewis' "Combwell Rosie" (No. 201) with 134.52 points, the second prize going to Mrs. R. M. Foot's "White Hill Reckless" (No. 203) with 132.95 points.

Class 17. Red Poll Heifer.—Entries 15; present 13. Three animals failed to reach the class standard of 66.7 points and the general average was about the same as that of recent years, without any particularly distinguished performances. The first prize was gained by Sir Guy Hambling's "Yoxford Maiden 3rd" (No. 223) with 104.91 points and the second went to Mrs. R. M. Foot's "White Hill Monk's Flight" (No. 220) with 99.86 points.

Class 18. Blue Albion Cow.—No entry.

Class 19. Blue Albion Heifer.—No entry.

Class 20. Welsh Black Cow.—Entries 7; present 4. The performance standard in this breed was not high, two cows failing to reach the class standard of 90 points. The Hon. Lady Shelley-Rolls won first and second prizes with "Dream" (No. 228) with 132.47 points and "Topsy 4th" (No. 229) with 120.31 points respectively.

Class 21. Ayrshire Cow.—Entries 25; present 14. This was a very representative class and in performance well above the average of recent shows. One cow present was ill and no records were secured in this case, while one cow was disqualified for fat and solids-not-fat

deficiencies at one milking. The leading cow in this section was Mr. W. A. Thomson's "Dalpeddar East Wind" (No. 238) with 190.54 points. This cow was awarded the "Rowallan" Cup for the animal gaining the greatest number of points on Inspection, in the Milking Trials and Butter Tests in the Ayrshire section. She was also reserve to the British Friesian "Oakham Dainty" for the Supreme Individual Championship, Barham Cup, Spencer Cup, and Shirley Challenge Cup. The second prize in this class was won by Capt. W. B. Dronsfield's "Urioch Brookie 2nd" (No. 233) with 179.22 points. The reserve for the Rowallan cup was awarded to Mr. James Turner's "Loaninghead May" (No. 245).

Class 22. Ayrshire Heifer.—Entries 30; present 18. This was the second strongest class in the Show. In view of the numbers, the standard of performance was excellent, only one animal failing to reach the class standard of 66.7. The class average of 105.4 points was the best yet attained, while Mr. J. N. Drummond's "Bargower Miss Donald 7th" (No. 261) that headed the class with 136.15 points, also created a new class record. Mr. J. Cochrane's "Byreholme Annie Simpson" (No. 284) was second with 127.32 points.

Class 23. Guernsey Cow over 5 years old.—Entries 10; present 8. Although more strongly supported in numbers, the standard of performance was not up to the average of recent years, and there were no outstanding achievements, although all attained the class standard of 85 points. The first prize was won by Mr. Newton R. Steel's "Princess of the Grée" (No. 296) with 127.33 points, the second prize going to Mr. R. O. Hambro's "Imperial Countess" (No. 293) with 119.29 points. This latter cow was reserve for the "Stagenhoe" Cup.

Class 24.—Guernsey cow under 5 years old and which has had two or more calves. Entries 8; present 4. The numbers showed a drop of 5 on last year, though the performance was an improvement on the previous year, the average was slightly below that of recent years. All the competitors attained the class standard of 70.8 points. The winner was Capt. H. J. Pilbrow's "Charlotte of Sous Les Hougues" (No. 302) with 122.52 points, the second going to Mr. Carl Holmes' "Dairymaid of Riduna" (No. 298) with 116.50 points. The first prize winner in this class was awarded the Stagenhoe Challenge Cup, for the cow gaining the greatest number of points on Inspection, in the Milking Trials and Butter Tests.

Class 25. Guernsey Heifer.—Entries 13; present 10. This class was much better supported than for some years, though the class average of points was hardly equal to the average of recent years. All the competitors attained the class standard of 56.7 points with appreciable margins, and the performance in general was a great

improvement on the 1933 show. The first prize was won by Mr. H. A. Y. Dyson's "Primrose Poltimore of Payhay" (No. 311) with 113.28 points and the second by Mr. Carl Holmes' "Dairy Queen 3rd of Clover Top" (No. 310) with 102.53 points.

Class 26. Jersey Cow over 5 years old.—Entries 21; present 12. This was a very good class with the level of merit well above the average. The first prize was won by Mr. J. W. McCallum's "Sonata" (No. 331) with 141.23 points, while the second was gained by Mr. S. S. Lockwood's "Cowslip 5th" (No. 335) with 131.30 points. These two cows were respectively the winner and the reserve for the Blythwood Challenge Bowl awarded to the Jersey cow or heifer gaining the greatest number of points in the Milking Trials and Butter Tests.

Class 27. Jersey Cow under 5 years old and which has had 2 or more calves.—Entries 22; present 16. This was the strongest class in the Jersey section of recent years, and in view of this the level of merit was creditable and while above the average it was lower than that of recent years. The winner was Mr. H. Cecil Pelly's "Fontaines Royal Princess" (No. 342) with 132.45 points, while second was Mrs. R. M. Foot's "White Hill Happy May" (No. 354) with 130.02 points. This cow also gained the National Milk Challenge Cup for the animal of any breed having the greatest number of points per 1,000 lbs. live weight, while "Fontaines Royal Princess" (No. 342) was reserve.

Class 28. Jersey Heifer.—Entries 13; present 6. This class showed an appreciable reduction in numbers present compared with the previous year, and while the level of merit was a slight improvement on last year, it equalled the average or recent years. The first prize was won by the Oualtine Dairy Farm's "Edna's Spotlight" (No. 366) with 107.65 points, the second going to Mrs. Hayes Sadler's "Charlton Abbotts Oxford's Ulrica" (No. 362) with 105.64 points.

Class 29. Kerry Cow.—Entries 10; present 9. After being absent last year Kerrys returned in force and put up their best performance for many years, with a level of merit much above the average. All the competing animals reached the class standard of 80, while the winning cow, viz: Mr. H. E. Mitchell's "Ard Caein Dove" (No. 381) set up a class record with 123.62 points. This cow was much heavier than the average of the class, and she was awarded the Silver Challenge Cup presented by the Breed Society for obtaining the greatest number of points in the Milking Trials. The same owner's "Cuckfield Pearl" (No. 382) was second with 118.92 points.

Class 30. Kerry Heifer.—Entries 5; present 3. This class has not received constant support in recent years, and in the

present case only two of the three reached the class standard of 53.3 points. The first prize was won by Mr. Newton R. Steel's "Hookland Brunette" (No. 385) with 72.79 points, while Mr. H. E. Mitchell's "Barrington Tulip 2nd" (No. 389) was second with 71.17 points.

Class 31. Dexter Cow.—Entries 4; present 4. This breed put up the best performance of recent years, all the competing cows reaching the class standard of 70 points. The winner was Lady Loder's "Grinstead Hawk 5th" (No. 391) with 100.57 points, while the same owner's "Grinstead Nightingale" (No. 390) was second with 97.17 points. This latter cow was awarded the "Nutt" Cup for Dexter gaining the most points on Inspection, in the Milking Trials and Butter Tests, No. 391, being reserve.

Class 32.—Dexter Heifer. Cancelled through insufficient entries.

NOTES ON CLASSES 33 TO 40.

BULL PROGENY CLASSES.

These classes were instituted at the 1928 Show, and their relative importance is only now beginning to be appreciated. An exhibitor has to exhibit in Classes 1 to 32 two animals of his own breeding and the progeny of one particular bull. The awards are made on the points gained in the Milking Trials, but of those gained, only those above the standard of the class will count, and both animals must attain class standard.

The number of entries this year totalled 34, an increase of 13 over last year. The competition as a whole was more regular and particularly so in the Dairy Shorthorn section.

Class 33. Progeny of Dairy Shorthorn Bull.—Entries 10; present 7. All competing animals attained the class standard, and the performance in general was a considerable improvement on previous years. The first prize was won for Sir Mark Collet by the cow and heifer "St. Clere Millicent 11th" (No. 30) and "St. Clere Ruby 6th" (No. 61), the progeny of "Bourneplace Lord Pimpernel 2nd" (228422), bred by Mr. H. Calvert, with a total of 123.24 points. The second prize was won for Mr. W. H. Vigus by the cows "Revels Roan Annetta" (No. 42) and "Revels Gentle" (No. 43), the progeny of "Hawstead Mainspring" (199378), bred by Mr. S. Fitzroy, with 97.46 points.

Class 34. Progeny of Lincolnshire Red Shorthorn Bull.—Entries 3; present 2. But for the withdrawal of Messrs. John Evens & Son's cattle from the show, a complete representation would have

been secured. Mr. F. Russell Wood obtained the first prize with "Bendish Ada 75th" (No. 109) and "Bendish Nancy 25th" (No. 110), the heifer progeny of "Ketteringham Milkman" (19549), bred by Mr. A. Walker, with 77.80 points. Mr. F. Sainsbury's heifers "Wratting Sunbeam 2nd" (No. 111) and "Wratting Queen" (No. 112), the progeny of "Burton Rose Boy 8th" (23526), bred by John Evens & Son, were second with 74.47 points.

Class 35. Progeny of British Friesian Bull.—Entries 4; present 3. The competition was relatively poor, since only one entry qualified for an award, viz., Mr. G. J. Cadday's heifers "Egham Thelma 4th" (No. 155) and "Egham Titania 6th" (No. 156), the progeny of "Golf Roland" (20129), bred by the late Mr. J. Bromet, with 68.73 points.

Class 36. Progeny of Red Poll Bull.—Entries 4; present 4. Only two of the entries qualified, and the first prize was won for Mr. Stuart Paul by the two cows "Kirton Duplication" (No. 198) and "Kirton Duplex" (No. 207), the progeny of "Kirton Samson" (14208), bred by the late Mr. W. F. Paul, with 72.75 points. Sir Merrik R. Burrell's cow and heifer "Knepp Prudence 11th" (No. 188) and "Knepp Paradise 23rd" (No. 213), the progeny of "Meddler Sunshine 2nd" (14254), bred by Mr. F. W. Leach, were second with 61.41 points.

Class 37. Progeny of Ayrshire Bull.—Entries 5; present 2. Mr. J. Cochrane's two heifers "Byreholme Milly" (No. 282) and "Byreholme Annie Simpson" (No. 284), the progeny of "Halldykes Willie" (29848), bred by Mr. R. F. Stewart, were first with 105.20 points. The second prize was won for Messrs. J. & J. McIntyre, with the two heifers "Logan Mains Snap" (No. 285) and "Logan Mains Snowball 5th" (No. 286), the progeny of "Auchinbay Felstead" (28668), bred by Mr. J. S. Ferguson.

Class 38. Progeny of Guernsey Bull.—Entries 2; present 1. The two heifers "Jaonnets Queen of the Mapleton" (No. 313) and "Moss Gay 3rd of Mapleton" (No. 314), the progeny of "Gaddesden Rosey's Sequel" (7988) were awarded the only prize for Capt. H. J. Pilbrow, with 69.08 points.

Class 39. Progeny of Jersey Bull.—Entries 3; present 3. All the entries qualified, and the first prize was won by Mrs. R. M. Foot with the two cows "White Hill Happy May" (No. 354) and "White Hill Happy Deauvillaise" (No. 355), the progeny of "Danbury Hazel" (16548), bred by Brig.-Gen. J. T. Wigan, with 84.06 points. Second prize went to Mr. G. McWilliam's "Bollhayes May's Sunrise" (No. 339) and "Bollhayes Jolly Bart" (No. 360), the progeny of "Warrior's Cid You'll Do" (15462), bred by Mrs. O. Ames, with 71.24 points.

Class 40. Progeny of Bull of any other Dairy Breed.—Entries 3; present 2. Only one entry qualified, viz., Mr. George Will's South Devon cows "Milkmaid 3rd" (No. 173) and "Milkmaid 5th" (No. 174), the progeny of "Wychbrook Champion" (10995), bred by Major W. G. Hole, that won the prize with 98.64 points.

CHALLENGE CUPS AND TROPHIES

Open to all Breeds

1. *The British Dairy Farmers' Association's Supreme Individual Championship Challenge Trophy.*—This trophy, the highest award which can be won by an individual animal at the Show, is awarded to the owner of the cow gaining the greatest number of points on Inspection, in the Milking Trials (provided the quality of the milk analysed during the trials does not fall below 3 per cent. fat, nor below 8.5 per cent. of non-fatty solids at any milking) and in the Butter Tests.

The responsibility for the selection of the actual animals competing rests with the Breed Societies. After the Milking Trials and Butter Tests figures were available, each Breed Society could select not more than two animals of its respective breed from the cow classes (four animals from the three Dairy Shorthorn cow classes). The judging for the Inspection Points was carried out by one judge—Mr. A. Weightman—on the basis that the best animal should receive 125 points, and the other animals a lower number according to the judge's opinion.

A little confusion sometimes exists in the minds of exhibitors as to the reasons why their own particular exhibits have been overlooked by the breed societies in spite of outstanding performance in one direction or another. A rule obtains, however, that in the awards of Trophies and Cups where points gained in the Milking Trials and Butter Tests are taken into account, an animal, in order to be eligible for such an award, must have attained the class standard of points in the Milking Trials and in the Butter Tests. Some confusion arising out of the inability to appreciate this qualifying rule was observed at the 1934 Show.

The animals chosen by the Breed Societies were paraded in the Gilbey Hall on Thursday afternoon, and after the points given on Inspection had been added to those gained in the Milking Trials and Butter Tests by each competitor, the winner and reserve were announced.

The winner of the trophy was "Oakham Dainty" (No. 132), bred and owned by Mr. Cecil Ball. The reserve was "Dalpeddar East Wind" (No. 238), bred and owned by Mr. W. A. Thomson.

The points gained in each section and the breed of each animal paraded in the trophy are given below :—

Cow.			Points gained in			
Number and Breed.			Milking Trials.	Butter Tests.	Inspection.	Award.
132	British Friesian	...	201.99	56.75	115.00	373.74
238	Ayrshire	...	190.54	44.50	120.00	355.04
82	Dairy Shorthorn	...	181.04	39.00	125.00	345.04
80	Dairy Shorthorn	...	189.67	40.25	92.00	321.92
135	British Friesian	...	159.88	39.25	110.00	309.13
335	Jersey	...	131.80	52.00	119.00	302.80
256	Ayrshire	...	153.58	43.50	105.00	302.08
25	Dairy Shorthorn	...	156.04	40.80	93.00	289.84
191	Red Poll	...	155.01	36.95	95.00	286.96
192	Red Poll	...	147.06	46.85	88.00	281.91
32	Dairy Shorthorn	...	146.31	38.00	94.00	278.31
342	Jersey	...	132.45	48.00	90.00	270.45
290	Guernsey	...	113.95	41.50	100.00	255.45
293	Guernsey	...	119.29	42.55	87.00	248.84

2. *The Bledisloe Challenge Trophy.*—This trophy is awarded to the Breed Society adjudged to have the best exhibit of six cows, taking into account Inspection and Milking Trials performance. The six cows of each competing breed were selected by the respective Breed Societies after the Milking Trial figures were available. The chosen teams were paraded for inspection on Wednesday afternoon, and judged by Mr. Walter Wilson, who had to award the best team 500 points, and the others less according to his opinion of their comparative merits. At the conclusion of the Inspection judging, the points awarded to each team were added to the points gained by each animal in the Milking Trials and the results announced.

Seven breed teams were paraded, and the winning team was the Dairy Shorthorn with 1516.23 points, the reserve going to the Ayrshire team with 1473.92 points. Dairy Shorthorns thus secured the Trophy for the first time.

The details of the points gained by each team are given below :—

DAIRY SHORTHORN.		BRITISH FRIESIAN.	
No. in Catalogue.	Milking Trial Points.	No. in Catalogue.	Milking Trial Points.
3	174.05	121	167.71
7	160.94	123	154.01
13	154.49	132	201.99
25	156.04	133	172.38
80	189.67	135	159.88
82	181.04	137	164.61
Total Milking Trial Points	1016.23	Total Milking Trial Points	1020.58
Inspection Points ...	500.00	Inspection Points ...	445.00
TOTAL ...	1516.23	TOTAL ...	1465.58

SOUTH DEVON.		RED POLL.	
No. in Catalogue.	Milking Trial Points.	No. in Catalogue.	Milking Trial Points.
160	131.34	187	164.99
161	150.08	191	155.01
166	140.54	186	152.36
169	145.22	197	152.13
171	137.30	192	147.06
173	144.48	198	142.60
Total Milking Trial Points	848.96	Total Milking Trial Points	914.15
Inspection Points ...	300.00	Inspection Points ...	400.00
TOTAL ...	1208.96	TOTAL ...	1314.15

AYRSHIRE.		JERSEY.	
No. in Catalogue.	Milking Trial Points.	No. in Catalogue.	Milking Trial Points.
233	179.22	320	113.21
238	190.54	331	141.23
245	166.25	335	131.30
255	163.89	339	115.79
256	153.58	342	132.45
254	150.44	361	122.41
Total Milking Trial Points	1003.92	Total Milking Trial Points	756.39
Inspection Points ...	470.00	Inspection Points ...	420.00
TOTAL ...	1473.92	TOTAL ...	1176.39

KERRY.	
No. in Catalogue.	Milking Trial Points.
375	110.35
376	93.60
378	109.69
379	105.88
381	123.62
382	118.92
Total Milking Trial Points	662.06
Inspection Points ...	340.00
TOTAL ...	1002.06

A summary of the team results with the teams arranged in order of merit is subjoined :—

Breed.	Milking Trial Points.	Inspection Points.	Total.	Award
Dairy Shorthorn ...	1016.23	500.00	1516.23	Winner Reserve
Ayrshire ...	1003.92	470.00	1473.92	
British Friesian ...	1020.58	445.00	1465.58	
Red Poll ...	914.15	400.00	1314.15	
South Devon ...	848.96	360.00	1208.96	
Jersey ...	756.39	420.00	1176.39	
Kerry ...	662.06	340.00	1002.06	

3. *The Morrison Challenge Trophy*.—This trophy is a reward of a high level of consistency at successive Dairy Shows. It is awarded to the owner of the cow competing in the Milking Trials, Butter Tests and appropriate Inspection Class at each of three consecutive shows, and gaining the highest number of points according to the following scale :—(a) number of points in Milking Trials above the class standard at each show ; (b) three times the number of points in the Butter Tests above the standard points for each breed and age period and (c) points for Inspection—first prize 40 points, second prize 30 points, third prize 20 points and fourth prize or reserve 10 points.

Only one cow was eligible at this show, *viz.* Mr. George Will's South Devon "Milkmaid 3rd" (No. 173). Her records over the three years in question are given below :—

Year.	No. in Cata- logue.	Milking Trials.			Butter Tests.			Inspection.			
		Points.	Standard.	Net Points	Points.	Standard.	Net Points.	Award.	Points.		
1932	181	98.32	66.7	31.62	26.00	22.7	9.90	—	—		
1933	166	123.18	83.3	39.88	40.25	28.3	35.85	—	—		
1934	173	144.88	83.3	61.58	38.5	28.3	30.60	3rd	20.00		
		Total ...			133.08	Total ...			76.35	Total ...	20.00
Grand Total 229.43											

such milk contains not less than 3.0 per cent. fat and 8.5 per cent. solids-not-fat. The winner was again "Oakham Dainty" (No. 132) with an average yield over two days of 90.95 lbs. of milk per day, the reserve being "Dalpeddar East Wind" (No. 238) with 88.60 lbs.

7. *The National Milk Cup*.—This cup is awarded to the owner of the cow or heifer of any breed obtaining in the Milking Trials the greatest number of points per 1,000 lbs. live weight; any points due for length of time since calving are added.

The Jersey breed almost makes it a habit to win this cup. This year's winner was Mrs. R. M. Foot's Jersey cow "White Hill Happy May" (No. 354) with 152.61 points. The reserve was another Jersey cow in Mr. H. Cecil Pelly's "Fontaine's Royal Princess" (No. 342) with 152.29 points.

8. *The Robert L. Mond Special Prize* is awarded to the owner of two animals, the daughters of one registered bull, that compete in the Milking Trials and together gain the largest number of points above the class standard.

This provided good competition, since 23 entries were received and in only three cases were one or other of the animals disqualified for consideration through not attaining the class standard. The prize was won by Sir Mark Collet's Dairy Shorthorn cow and heifer "St. Clere Millicent 11th" (No. 30) and "St. Clere Ruby 6th" (No. 61) with a total of 123.24 points above the class standard. The sire of these animals is "Bourneplace Lord Pimpernel 2nd" (228422), bred by Mr. H. Calvert. The reserve was Mr. J. Cochrane's two Ayrshire heifers "Byreholme Milly" (No. 282) and "Byreholme Annie Simpson" (No. 284), the progeny of "Halldykess Willie" (29848), with 105.20 points. The above four animals were well ahead of their rivals in points.

Summary of the distribution of the trophies and reserve awards amongst the different breeds at the 1934 Show:—

Trophy.	Winner.	Reserve.
Supreme Individual Championship	British Friesian	... Ayrshire
Bledisloe Trophy	Dairy Shorthorn	... Ayrshire
Morrison Trophy	South Devon	... —
Barham Cup	British Friesian	... Ayrshire
Spencer Cup	British Friesian	... Ayrshire
Shirley Cup	British Friesian	... Ayrshire
National Milk Cup	Jersey	... Jersey
R.L. Mond's Prize	Dairy Shorthorn	... Ayrshire

The Record Performance Table for each class introduced two years ago, is given below with such alterations as have been rendered necessary. It may be that certain errors still exist in this Table, and any information of any record incorrectly given will be greatly appreciated.

RECORD PERFORMANCES.

Highest Points gained in the Milking Trials.

Year.	Breed and Class.	Name of Animal.	No. in Catalogue.	Points.
1931	Dairy Shorthorn Cow (over 5 years)	"Orfold Jessy 2nd" ...	9**	186.78
1931	Dairy Shorthorn Cow (3 to 5 years)	"Greattew Darling 2nd" ...	26**	168.53
1934	Dairy Shorthorn Heifer ...	"St. Clere Ruby 6th" ...	61**	132.75
1931	Dairy Shorthorn Cow (Non-pedigree)	"Maud" ...	81**	198.35
1919	Dairy Shorthorn Heifer (Non-pedigree)	"Gem" ...	81*	118.80
1931	Lincolnshire Red Cow ...	"Wormleighton Daffodil 4th" ...	103**	195.96
1934	Lincolnshire Red Heifer ...	"Bendish Ada 15th" ...	109**	118.39
1932	British Friesian Cow (over 5 years)	"Oakham Dainty" ...	111**	215.30
1928	British Friesian Cow (3 to 5 years) ...	"Holyport Unity" ...	135**	180.10
1931	British Friesian Heifer ...	"Piddington Eve" ...	149**	133.92
1930	South Devon Cow (over 5 years)	"Milkmaid 14th" ...	181**	198.50
1932	South Devon Cow (3 to 5 years)	"Snowdrop 7th" ...	168**	158.75
1932	South Devon Heifer ...	"Ferry Primula" ...	186**	114.83
1934	Devon Cow ...	"Corton Comet" ...	184**	160.20
1931	Red Poll Cow (over 5 years)	"Henham Lorinda" ...	185**	177.32
1928	Red Poll Cow (3 to 5 years) ...	"Knepp Beryl 3rd" ...	188**	154.70
1928	Red Poll Heifer ...	"Basildon Rosalind" ...	211**	124.80
1926	Blue Albion Cow ...	"Elsenham Jessie" ...	264*	156.80
1933	Welsh Black Cow ...	"Bodelwa Beauty 7th" ...	213**	152.22
1932	Ayrshire Cow ...	"Eglinton Juno" ...	225**	206.10
1934	Ayrshire Heifer ...	"Bargower Miss Donald 7th" ...	261**	136.15
1929	Guernsey Cow (over 5 years)	"Hadham Goldstream 11th" ...	259*	158.60
1929	Guernsey Cow (3 to 5 years)	"Calehill Charm" ...	268**	164.30
1932	Guernsey Heifer ...	"Dairy Queen of Clover Top" ...	260**	137.20
1931	Jersey Cow (over 5 years) ...	"Lady Spotted Pearl" ...	300**	177.86
1932	Jersey Cow (3 to 5 years) ...	"Wotton Early Minx" ...	279**	138.00
1931	Jersey Heifer ...	"Fairseat Peggy 2nd" ...	326**	119.51
1925	Kerry Cow ...	"Buckland Peace 2nd" ...	394*	134.20
1929	Kerry Heifer ...	"Hattingley Ebony" ...	324**	85.00
1928	Dexter Cow ...	"Grinstead Taxus" ...	338*	105.19
1929	Dexter Heifer ...	"Grinstead Fuchsia 2nd" ...	335*	63.30

**Milked thrice daily.

*Milked twice daily.

RECORD YIELDS OF MILK.

Greatest average yields for two days.—Cows milked thrice daily :—

1929—British Friesian cow "Penshurst Lofty" (No. 124**),
102.65 lbs.

Greatest average yield for two days.—Cows milked twice daily :—

1924—British Friesian cow "Beccles Peggotty" (No. 154)
85.1 lbs.

Greatest yield of milk at one milking :—

1921—Dairy Shorthorn (non-pedigree) cow "Golden Sovereign" (No. 89) 47.6 lbs.

The following tables supply valuable information on the performances of the different breeds in their respective classes at the 1933 and preceding Shows.

Table I contains in summarised form the entries, the average live weight, milk yield, fat percentages, and points earned and lost in each class, also the average milk yield and points per 1,000 lbs. live weight.

Table II shows the number of animals tested, average points gained, number of animals attaining the Association class standard points, and the average live weight of each class at the last three Shows.

Table III shows the average points in the Milking Trials by each class each year since 1922 and the ten year average.

Table IV shows the highest points gained in each class in each year since 1923.

Table V shows the average yield and quality of the milk yielded by each class at the 1933 Show.

Table VI shows the number of animals yielding milk deficient in fat and solids not-fat in each class of each Show since 1923.

For comparative purposes the figures for cows milked twice daily and those milked thrice daily are given separately.

TABLE I.—SHOWING THE PERFORMANCE OF EACH CLASS—1934.

[illegible]

TABLE II.—SHOWING NUMBER OF COWS TESTED, AVERAGE POINTS GAINED AND NUMBER OF COWS ATTAINING THE ASSOCIATION'S STANDARD—1932 TO 1934.

Class.	Description.	B.D.F.A. Standard Points.	Number of Cows Tested.			Average Points Gained.			Number and Percentage of Cows above Standard.						Average Live Weight of Class.	
			1932		1933		1934		1932		1933		1934		1932	
									%	%	%	%	%	%	lbs.	lbs.
1	Dairy Shorthorn Pedigree Cow	100.0	10	11	8	138.7	129.46	144.10	10	100.0	9	81.8	8	100.0	1,418	1,398
2	Ditto (3-5 years)	83.3	12	9	17	126.6	115.80	122.63	12	100.0	8	88.8	17	100.0	1,316	1,233
3	Ditto Heifers	66.7	9	17	20	94.6	80.33	90.79	9	100.0	14	82.3	17	85.0	1,050	1,019
4	Ditto Non-Pedigree Cow	110.0	8	4	8	133.2	126.88	139.33	7	87.5	3	75.0	7	87.5	1,404	1,367
5	Ditto " Heifers	73.3	3	3	5	67.8	99.35	97.53	3	100.0	3	100.0	5	100.0	1,140	1,024
6	Lincoln Red Shorthorn	100.0	5	4	3	96.7	104.96	103.08	3	60.0	2	50.0	2	66.6	1,414	1,492
7	Ditto Heifers	66.7	4	5	4	80.5	86.19	104.77	3	75.0	4	80.0	4	100.0	1,142	1,179
8	British Friesian	110.0	15	10	12	142.7	155.84	163.18	13	86.6	9	90.0	11	91.6	1,414	1,443
9	Ditto (3-5 years)	91.7	11	8	6	122.6	123.38	145.79	10	90.9	6	75.0	6	100.0	1,285	1,347
10	Ditto Heifers	73.3	5	9	6	104.1	91.71	91.22	5	100.0	7	77.7	5	83.3	1,210	1,152
11	South Devon	100.0	8	7	6	125.0	103.18	134.81	8	100.0	5	71.4	6	100.0	1,583	1,586
12	Ditto (3-5 years)	83.3	5	9	5	120.4	104.09	132.25	5	100.0	8	88.8	5	100.0	1,474	1,540
13	Ditto Heifers	66.7	7	3	5	95.7	67.40	100.04	7	100.0	2	66.7	5	100.0	1,330	1,232
14	Devon	90.0	—	—	4	—	—	111.13	—	—	—	—	2	50.0	—	1,498
15	Red Poll	100.0	6	7	12	113.9	113.44	138.76	4	66.6	7	100.0	11	91.6	1,351	1,278
16	Ditto (3-5 years)	83.3	5	7	9	110.9	104.96	108.75	4	80.0	7	100.0	7	77.7	1,105	1,089
17	Ditto Heifers	66.7	—	8	13	—	82.00	82.01	—	—	6	75.0	10	76.9	—	1,038

N.B.—The whole of the above figures are based on cows milked thrice daily.

TABLE II.—SHOWING NUMBER OF COWS TESTED, AVERAGE POINTS GAINED AND NUMBER OF COWS ATTAINING THE ASSOCIATION'S STANDARD—1932 TO 1934.—Continued.

Class.	Description.	B.D.F.A. Standard Points.	Number of Cows Tested.			Average Points Gained.			Number and Percentage of Cows above Standard.						Average Live Weight of Class.		
			1932			1933			1934			1932			1933		
			1932	1933	1934	1932	1933	1934	%	%	%	%	%	%	lbs.	lbs.	lbs.
18	Blue Alderney ...	100.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
19	Ditto Heifers ...	66.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
20	Welsh Black ...	90.0	—	5	4	—	106.30	98.52	—	—	—	—	—	—	1,160	1,203	1,203
21	Ayrshires ...	100.0	14	8	14	162.8	140.57	151.15	14	100.0	7	87.5	13	92.8	1,232	1,271	1,227
22	Ditto Heifers ...	66.7	13	5	18	101.4	86.0	105.41	13	100.0	4	80.0	17	94.4	1,045	1,040	1,052
23	Guernsey ...	85.0	4	6	8	109.7	118.76	112.54	3	75.0	6	100.0	8	100.0	1,074	1,051	1,028
24	Ditto (3-5 years)	70.8	2	9	4	93.0	99.56	102.70	1	50.0	9	100.0	4	100.0	1,117	996	1,074
25	Ditto Heifers ...	56.7	3	6	10	107.0	69.86	92.79	3	100.0	6	100.0	10	100.0	909	860	923
26	Jersey ...	90.0	1	7	12	112.3	113.90	116.09	1	100.0	7	100.0	12	100.0	900	971	922
27	Ditto (3-5 years)	75.0	3	12	16	115.8	112.60	109.33	3	100.0	12	100.0	16	100.0	849	892	879
28	Ditto Heifers ...	60.0	3	13	6	86.6	82.87	87.51	3	100.0	12	92.3	6	100.0	719	782	806
29	Kerry ...	80.0	2	—	9	79.9	—	102.21	1	50.0	—	—	9	100.0	1,031	—	881
30	Ditto Heifers ...	53.3	—	3	—	—	—	62.65	—	—	—	—	2	66.6	—	—	802
31	Dexter ...	70.0	4	6	4	76.4	62.21	89.03	3	75.0	2	33.3	4	100.0	761	709	757
32	Ditto Heifers ...	46.7	—	4	—	—	57.40	—	—	—	4	100.0	—	—	—	501	—

N.B.—The whole of the above figures are based on cows milked thrice daily.

TABLE III.—AVERAGE POINTS GAINED IN THE MILKING TRIALS EACH YEAR SINCE 1922.

YEAR.	D.S. Cow over 5 years.	D.S. Cow 3-5 years.	D.S. Heifer.	D.S. Non- ped. Cow.	D.S. Non- ped. Heifer.	L.R.S. Cow.	L.R.S. Heifer.	B.F. Cow over 5 years.	B.F. Cow 3-5 years.	B.F. Heifer.	S.D. Cow over 5 years.	S.D. Cow 3-5 years.	S.D. Heifer.	Devon Cow.	R.P. Cow over 5 years.	R.P. Cow 3-5 years.
B.D.F.A. Class Standard	100.0	83.3	66.7	110.0	73.3	100.0	66.7	110.0	91.7	73.3	100.0	83.3	66.7	90.0	100.0	83.3
Milking Twice Daily.	1022	107.7	94.0	108.1	73.0	113.2	71.4	120.2	92.6	79.3	100.5	—	—	98.7	91.5	70.4
	1023	111.4	100.0	111.4	88.7	114.2	88.9	135.0	117.4	75.6	114.9	—	—	99.7	116.7	95.5
	1024	106.5	88.3	93.0	66.8	93.8	65.1	118.2	108.8	85.0	—	—	—	93.6	102.1	89.0
	1025	108.9	92.8	73.3	73.3	115.4	84.6	123.8	119.8	87.9	114.9	—	—	103.2	125.4	97.7
	1026	113.3	88.8	73.3	63.0	121.1	87.7	120.0†	167.1†	80.9	—	—	—	113.2	116.5	90.1
	1028	101.4	90.6	106.8	63.0	—	—	—	—	—	—	—	—	56.0	100.7	120.5†
	1029	101.8	111.4	120.1	89.3	137.2†	89.2	—	—	81.5	—	—	—	88.4†	166.9†	90.4
Milking Once Daily.	1030	107.9	91.6	111.0	72.8	92.2	78.7	—	—	—	—	—	—	—	—	85.5
	1031	94.0	93.8	72.9	72.9	90.4†	88.0	—	—	—	—	—	—	75.3	—	—
	1032	86.1	53.7	—	122.7	—	—	—	—	—	—	—	—	—	—	—
Average Points last 10 Shows.	106.3	91.1	69.6	108.3	73.2	110.8	82.8	123.6	120.9	81.7	110.1	—	66.4	91.0	111.2	94.6
Milking Thrice Daily.	1028	127.6	95.1	75.3	73.0	128.8	95.7	125.6	133.4	88.0	127.4	—	—	—	84.6	128.6
	1029	147.0	112.3	79.2	—	125.7	83.2	153.0	136.4	78.6	139.7	—	—	138.4†	119.8	102.2
	1030	131.2	107.1	80.8	120.6†	121.9	—	125.6	131.4	85.5	135.6	—	—	45.8†	122.3	114.0
	1031	139.7	130.7	87.6	91.9†	140.5	87.0	161.4	162.0	112.9	140.7	—	—	—	122.5	130.0
	1032	138.7	126.6	94.6	67.8	96.7	80.5	142.7	122.6	104.1	125.0	120.4	100.8	—	113.9	110.3
Average Points of last 7 Shows.	1033	120.5	115.8	80.3	99.3	104.9	86.2	155.8	123.4	91.7	103.2	104.1	67.4	—	113.4	106.0
	1034	144.1	122.6	90.7	97.5	103.6	104.7	163.1	145.7	91.2	134.8	132.2	100.0	111.1	138.7	108.7
Average Points of last 7 Shows.	136.8	115.7	84.0	131.9	81.6	117.4	89.5	146.7	136.4	93.1	129.4	118.9	90.9	98.4	120.0	114.6

†Points for one annual only.

TABLE III.—AVERAGE POINTS GAINED IN THE MILKING TRIALS EACH YEAR SINCE 1922—(Continued).

YEAR.	R.P. Heifers.	R.A. Cow.	B.A. Heifers.	W.B. Cow.	A. Cow.	A. Heifers.	G. Cow over 5 years.	G. Cow 3-5 years.	G. Heifers.	J. Cow over 5 years.	J. Cow 3-5 years.	J. Heifers.	K. Cow.	K. Heifers.	Dexter Cow.	Dexter Heifer.
B.D.F.A. Class Standard ...	66.7	100.0	66.7	100.0	100.0	66.7	85.0	70.8	56.7	90.0	75.0	60.0	80.0	53.3	70.0	46.7
1922 ...	64.7	78.3	—	—	85.7	78.5	88.4	72.4	62.2	70.7	—	72.1	75.3	40.9	59.7	—
1923 ...	72.6	108.3	—	—	128.5	87.6	77.0	97.0	77.5	89.8	—	70.0	87.6	40.0	59.0	—
1924 ...	71.6	108.3	—	—	134.1	83.2	77.4	72.3	76.2	91.9	—	80.0	70.6	38.6	—	—
1925 ...	80.6	128.3	—	—	121.7	90.3	76.5	76.5	68.8	92.3	—	68.7	103.6	69.0	78.8	—
1926 ...	77.2	123.1	—	—	—	—	91.4	69.3	69.7	92.5	—	69.5	103.3	65.5	62.6	—
1927 ...	—	84.6	—	—	138.7	63.1	—	103.7	69.7	101.3	—	73.1	84.6	51.8	105.8	—
1928 ...	77.0	130.0	—	—	—	—	115.6	122.3	86.7	102.4	—	74.7	71.9	—	68.8	—
1929 ...	—	—	—	—	—	—	105.8	97.3	87.5	102.4	—	73.3	87.6	28.6	67.4	45.7
1930 ...	76.3	103.6	64.7	—	—	—	108.3	98.0	112.5	95.2	—	68.5	83.9	—	52.1	51.1
1931 ...	—	—	83.0	—	—	—	135.2	82.5	63.4	109.3	101.0	76.2	—	—	55.2	—
1932 ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Points of last 10 Shows.	74.9	107.0	73.8	—	123.7	82.6	96.3	91.4	72.5	96.8	95.0	71.7	88.6	50.2	67.7	48.4
1928 ...	74.6	—	—	—	138.4	104.1	111.2	99.9	77.4	114.3	93.5	97.2	80.8	68.6	83.8	—
1929 ...	88.0	—	—	—	143.9	104.1	143.7	113.8	—	106.9	107.9	82.9	94.0	69.1	86.1	50.2
1930 ...	72.4	—	—	—	127.4	90.8	113.5	114.6	100.0	100.7	79.7	80.9	102.1	71.9	74.4	—
1931 ...	95.5	113.7	115.2	97.2	149.3	95.2	123.0	114.9	102.1	122.3	115.4	96.5	—	—	58.5	—
1932 ...	—	—	—	—	102.8	101.4	109.7	93.0	107.0	112.3	115.8	80.6	79.9	—	76.4	—
1933 ...	82.0	—	—	106.3	140.6	86.0	118.8	99.6	69.9	113.9	112.6	82.9	—	—	62.2	57.4
1934 ...	82.0	—	—	98.5	151.1	105.4	112.5	102.7	92.7	116.0	109.3	87.5	102.2	62.6	89.0	—
Average Points of last 7 Shows.	82.4	113.7	115.2	100.6	144.7	98.1	118.9	105.5	93.1	112.3	104.8	87.7	91.3	68.0	75.7	53.8

‡ Points for one animal only.

TABLE IV.—SHOWING THE HIGHEST POINTS GAINED EACH YEAR SINCE 1924.

YEAR.	D.S. Cow over 5 years.	D.S. Cow 3-5 years.	D.S. Heifer.	D.S. Non-pet. Cow.	D.S. Non-pet. Heifer.	L.R.S. Cow.	L.R.S. Heifer.	B.F. Cow over 5 years.	B.F. Cow 3-5 years.	B.F. Heifer.	J. Cow over 5 years.	J. Cow 3-5 years.	S.D. Cow over 5 years.	S.D. Cow 3-5 years.	S.D. Heifer.	Devon Cow.	R.P. Cow over 5 years.	R.P. Cow 3-5 years.
1924	132.4	124.1	77.7	142.5	83.1	118.0	101.0	153.4	137.0	101.9	124.7	101.9	145.7	—	109.1	126.8	116.5	116.5
1925	132.9	123.4	101.8	145.9	94.6	149.9	108.0	137.0	137.0	99.5	86.9	131.5	135.0	—	113.2	146.4	104.8	104.8
1926*	137.4	133.7	87.3	147.3	56.3	159.5	103.1	120.6	107.1	100.3	119.0	115.5	130.6	—	113.2	148.6	122.8	122.8
1926†	121.2	146.3	90.5	140.3	77.1	131.9	109.7	104.1	174.7	127.4	126.1	109.1	165.9	—	68.9	120.5	120.5	120.5
1928*	123.3	109.0	77.1	115.0	78.8	103.3	96.3	163.7	180.1	115.0	106.4	115.0	158.6	—	—	126.9	154.7	154.7
1928†	139.3	115.0	90.4	151.2	104.2	163.3	96.3	163.7	180.1	115.0	106.4	115.0	158.6	—	—	126.9	154.7	154.7
1929*	147.0	134.4	91.2	158.7	98.8	157.7	103.1	186.5	179.0	97.4	189.6	189.6	189.6	—	138.4	166.8	120.4	120.4
1929†	149.5	127.1	91.3	158.7	98.8	157.7	103.1	186.5	179.0	97.4	189.6	189.6	189.6	—	138.4	166.8	120.4	120.4
1930*	125.7	143.0	93.9	128.8	86.8	137.6	99.4	109.8	102.0	125.1	109.8	109.8	189.6	—	88.4	81.0	103.5	103.5
1930†	147.8	163.3	102.5	128.8	86.8	137.6	99.4	109.8	102.0	125.1	109.8	109.8	189.6	—	45.8	154.2	135.2	135.2
1931*	149.8	130.6	95.1	128.8	86.8	137.6	99.4	109.8	102.0	125.1	109.8	109.8	189.6	—	—	177.3	147.7	147.7
1931†	186.8	168.5	111.8	122.7	80.8	176.0	94.4	191.4	171.3	133.9	173.5	173.5	173.5	—	93.5	155.5	144.7	144.7
1932*	98.6	68.2	112.9	177.3	113.9	125.9	102.3	215.3	175.6	134.3	140.0	140.0	134.3	—	114.8	155.5	144.7	144.7
1932†	100.1	102.3	107.4	155.1	107.4	156.5	100.9	213.2	152.9	124.5	134.3	134.3	134.3	—	80.7	130.5	124.3	124.3
1933†	158.5	164.7	106.9	155.1	111.9	131.4	118.3	201.9	164.4	109.8	150.0	150.0	150.0	—	111.9	160.2	134.5	134.5
1934	174.0	156.0	132.7	189.6	111.9	131.4	118.3	201.9	164.4	109.8	150.0	150.0	150.0	—	130.2	160.2	134.5	134.5
YEAR.	R.P. Heifers.	R.A. Cow.	R.A. Heifers.	W.B. Cow.	A. Cow.	A. Heifers.	G. Cow over 5 years.	G. Cow 3-5 years.	G. Heifers.	J. Cow over 5 years.	J. Cow 3-5 years.	J. Heifers.	K. Cow.	K. Heifers.	Dexter Cow.	Dexter Heifers.		
1924	93.1	121.7	—	—	158.3	107.3	105.7	98.2	92.5	124.7	101.9	91.3	103.7	57.4	86.4	—		
1925	107.4	145.2	—	—	165.2	115.5	106.6	103.8	82.1	120.1	115.5	80.1	134.2	79.5	86.4	—		
1926*	103.1	156.8	—	—	174.2	117.6	116.5	104.2	82.1	119.0	115.5	80.1	120.7	70.7	63.2	—		
1926†	104.2	156.8	—	—	174.2	117.6	116.5	104.2	82.1	119.0	115.5	80.1	120.7	70.7	63.2	—		
1928*	121.8	125.9	—	—	176.3	122.5	126.9	114.7	69.1	133.2	109.1	95.3	98.5	51.8	106.9	—		
1928†	121.8	125.9	—	—	176.3	122.5	126.9	114.7	69.1	133.2	109.1	95.3	98.5	51.8	106.9	—		
1929*	77.0	147.3	—	—	176.3	122.5	126.9	114.7	69.1	133.2	109.1	95.3	98.5	51.8	106.9	—		
1929†	103.4	147.3	—	—	176.3	122.5	126.9	114.7	69.1	133.2	109.1	95.3	98.5	51.8	106.9	—		
1930*	105.6	145.5	80.2	116.9	146.4	108.6	105.8	97.3	84.5	116.9	121.9	96.5	102.1	85.0	86.1	72.3		
1930†	105.6	145.5	80.2	116.9	146.4	108.6	105.8	97.3	84.5	116.9	121.9	96.5	102.1	85.0	86.1	72.3		
1931*	76.3	104.0	83.0	—	180.2	105.6	108.2	102.9	110.0	131.0	117.0	90.2	102.1	68.4	82.3	50.2		
1931†	117.3	116.7	105.2	—	180.2	105.6	108.2	102.9	110.0	131.0	117.0	90.2	102.1	68.4	82.3	50.2		
1932*	—	—	—	—	206.1	131.9	135.2	137.5	93.9	177.9	128.5	119.5	90.1	—	66.2	—		
1932†	—	—	—	—	206.1	131.9	135.2	137.5	93.9	177.9	128.5	119.5	90.1	—	66.2	—		
1933†	118.0	—	—	152.2	192.3	113.6	140.1	129.6	137.2	123.7	133.9	117.2	148.3	—	78.7	63.1		
1934	104.9	—	—	132.4	190.5	136.1	127.3	122.5	113.2	141.2	132.4	107.6	123.6	72.7	100.5	—		

*Milked twice daily.

†Milked thrice daily.

TABLE V.—QUANTITY AND QUALITY OF MILK—1934.

Class.	BREED.	No. of Cows, Calves, & Heifers.	Average Weight of Milk.			Average Composition of Milk.						Total Solids.		
			Average Weight of Milk.			Fat.		Solids—not Fat.				Total Solids.		
			Morn.	Aft.	Even.	Morn.	Aft.	Morn.	Aft.	Even.	Morn.	Aft.	Even.	
1	Dairy Shorthorn Cow—Pedigree	8	lbs. 23.84	lbs. 22.76	lbs. 22.05	lbs. 68.65	3.97	3.91	3.69	8.98	8.67	12.95	12.58	12.60
2	Ditto—3-5 years	17	18.98	18.84	18.67	56.49	3.80	4.27	4.35	9.04	8.89	12.93	13.16	13.30
3	Ditto—Heifer	20	14.85	14.84	14.54	44.27	3.59	3.97	3.88	9.30	9.08	12.89	13.05	13.00
4	Dairy Shorthorn Cow—Non-pedigree	8	22.07	22.63	23.65	68.35	3.37	3.82	4.26	9.09	8.79	12.46	12.61	13.13
5	Ditto—Non-pedigree Heifer	5	14.44	14.18	14.76	43.38	4.30	4.74	4.24	9.04	9.14	13.34	13.88	13.12
6	Lincoln Red Cow	3	13.57	14.43	13.93	41.93	4.30	6.00	5.40	8.64	8.91	12.94	14.91	14.07
7	Ditto—Heifer	4	15.25	15.71	15.73	46.69	4.88	4.99	3.99	9.27	9.21	14.15	14.23	13.08
8	British Friesian Cow	12	27.64	26.58	27.24	81.46	3.81	3.92	3.89	8.65	8.61	12.92	12.90	12.40
9	Ditto—3-5 years	6	23.65	24.38	23.22	71.25	4.22	4.11	3.81	8.70	8.66	12.92	12.77	12.40
10	Ditto—Heifer	6	16.13	17.10	17.50	50.82	3.43	3.15	3.48	8.61	8.63	12.94	13.04	13.01
11	South Devon Cow	6	20.81	20.38	20.40	60.68	4.88	4.71	5.08	8.95	8.97	13.08	13.84	13.44
12	Ditto—Heifer	5	18.27	18.80	18.22	55.29	4.71	4.97	5.77	9.39	9.20	14.10	14.17	15.01
13	Ditto—3-5 years	5	13.26	13.25	13.33	39.53	4.90	5.77	5.61	9.12	9.09	14.02	14.97	15.04
14	Devon Cow	4	15.70	14.34	13.76	43.80	5.39	5.32	6.52	8.99	9.03	14.38	14.40	15.07
15	Red Poll Cow	12	20.26	20.13	19.80	60.19	4.22	4.95	4.63	8.89	8.78	12.96	13.81	13.41
16	Ditto—3-5 years	9	16.18	16.77	15.97	48.92	3.87	4.94	4.24	9.09	9.12	12.84	13.42	13.24
17	Ditto—Heifer	13	12.55	12.38	12.31	37.24	3.83	4.50	4.32	9.01	9.07	12.84	13.19	13.41
18	Welsh Black Cow	4	15.51	15.15	14.64	45.30	4.15	5.22	4.22	9.18	8.73	12.84	13.24	13.42
19	Ayrshire Cow	14	24.70	24.72	24.55	74.06	3.46	4.19	4.09	9.03	8.73	12.84	13.19	13.24
20	Ditto—Heifer	18	15.46	16.54	16.18	49.18	3.83	4.33	4.08	9.03	8.73	12.84	13.19	13.24
21	Guernsey Cow	5	17.35	17.09	17.02	51.46	4.30	3.77	4.37	9.40	9.24	13.10	13.44	13.00
22	Ditto—3-5 years	4	14.81	14.69	14.69	44.07	3.64	4.20	4.79	9.50	9.26	13.78	13.90	13.03
23	Ditto—Heifer	19	12.61	12.98	12.54	38.13	4.28	5.51	4.66	9.28	9.48	14.06	14.69	13.80
24	Jersey Cow	12	15.18	15.91	15.52	47.21	4.78	4.90	4.69	9.40	9.41	14.50	14.40	13.94
25	Ditto—3-5 years	6	12.47	13.62	13.72	42.46	5.49	5.18	4.67	9.58	9.56	15.00	14.40	14.02
26	Ditto—Heifer	9	14.59	14.65	14.72	49.40	4.32	5.18	4.67	9.36	9.23	14.68	14.74	13.84
27	Kerry Cow	6	14.50	13.75	13.75	42.46	5.49	5.18	4.67	9.36	9.23	14.68	14.74	13.84
28	Ditto—Heifer	3	8.97	8.43	8.15	25.55	3.96	4.83	4.46	9.23	9.10	13.19	13.93	13.47
29	Ditto—Heifer	4	11.81	11.46	10.99	34.26	4.93	5.40	5.14	9.41	9.16	14.34	14.56	14.31
30	Ditto—Heifer	4	11.81	11.46	10.99	34.26	4.93	5.40	5.14	9.41	9.16	14.34	14.56	14.31
31	Ditto—Heifer	4	11.81	11.46	10.99	34.26	4.93	5.40	5.14	9.41	9.16	14.34	14.56	14.31

NOTE.—In Class 10 the average weight of milk is for 9 animals, and the average composition of the milk is for 8 animals.

TABLE VI.—NUMBER OF ANIMALS YIELDING MILK DEFICIENT IN FAT AND OTHER SOLIDS.

BREED AND CLASS.	Less than 3 per cent. of Fat.										Less than 8.5 per cent. of Non-Fatty Solids.									
	1924	1925	1926	1928	1929	1930	1931	1932	1933	1934	1924	1925	1926	1928	1929	1930	1931	1932	1933	1934
Dairy Shorthorns—Ped. over 5 years ...	1	2	2	2	0	1	2	3	1	1	1	0	1	0	0	2	0	1	3	2
Ditto, 3-5 years ...	4	2	7	0	0	2	3	4	2	2	0	0	2	1	1	1	0	0	1	1
Ditto, Heifers ...	3	0	0	0	0	1	0	5	1	2	3	0	4	0	0	0	0	0	3	1
Dairy Shorthorns—Non-Ped. Cows ...	1	0	0	0	0	0	1	3	0	0	0	0	0	0	0	1	1	1	0	0
Ditto, Heifers ...	5	2	1	1	1	3	0	3	1	0	2	0	0	0	2	0	0	2	0	0
Lincoln Red Shorthorn Cows ...	4	0	0	0	0	1	6	1	2	2	3	3	5	2	2	3	1	7	3	5
Ditto, Heifers ...	7	9	3	7	1	2	5	9	5	0	0	2	3	0	2	0	1	0	0	1
British Friesian Cows. Over 5 years ...	1	3	3	1	4	1	0	1	2	2	3	0	2	0	1	0	0	1	0	0
Ditto, 3-5 years ...	1	0	2	4	1	5	2	1	2	3	0	0	2	0	1	0	1	0	2	2
Ditto, Heifers ...	1	0	0	0	1	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0
South Devon Cows. Over 5 years ...	—	—	—	—	0	0	0	1	1	0	—	—	—	—	0	0	0	—	—	—
Ditto, 3-5 years ...	—	—	—	—	0	0	0	2	2	0	—	—	—	—	0	0	0	—	—	—
Ditto, Heifers ...	—	—	—	—	0	1	2	2	—	0	—	—	—	—	0	0	1	—	—	—
Devon. Cows ...	0	0	0	0	2	1	2	1	0	0	1	0	0	1	1	0	1	1	0	0
Red Poll. Cows over 5 years ...	3	0	0	0	1	1	0	0	0	0	1	0	0	1	0	1	0	0	0	1
Ditto, 3-5 years ...	2	0	0	0	1	1	0	0	2	0	0	1	0	0	0	1	0	—	—	—
Ditto, Heifers ...	0	0	0	0	0	0	0	—	1	—	0	0	2	0	0	0	0	—	—	—
Blue Albion. Cows ...	0	0	0	0	0	0	0	—	—	—	0	0	0	0	0	0	0	—	—	—
Ditto, Heifers ...	—	—	—	—	0	0	0	—	1	—	—	—	—	—	0	0	0	—	—	—
Welsh Black. Cows ...	0	0	0	0	0	3	0	3	1	1	0	0	0	0	3	1	2	1	0	0
Ayrshire. Cows ...	0	0	0	0	2	1	1	1	1	0	0	1	0	0	0	2	0	0	1	0
Ditto, Heifers ...	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Guernsey Cows. Over 5 years ...	0	0	0	0	1	1	0	0	2	2	0	1	1	0	0	0	0	0	0	0
Ditto, 3-5 years ...	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ditto, Heifers ...	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jersey. Cows over 5 years ...	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ditto, 3-5 years ...	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ditto, Heifers ...	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kerry. Cows ...	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Ditto, Heifers ...	1	0	0	0	0	0	1	2	—	0	1	0	0	0	2	0	0	—	—	—
Dexter. Cows ...	1	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0
Ditto, Heifers ...	0	0	—	—	0	1	2	—	3	0	—	—	—	—	0	1	0	0	0	—
Total ...	36	25	27	33	21	41	21	51	33	23	17	17	23	7	30	29	15	21	20	23
Number Tested ...	230	226	233	201	198	232	218	209	202	251	229	226	233	201	198	232	218	200	202	251

CLASS I.—DAIRY SHORTHORN COW (BORN ON OR PREVIOUS TO 1ST AUGUST, 1929)—Continued.

Number Name	...	...	...	...	...	10 Knells Elliot Twig.	13 Siddingworth Rose 2nd.	14 Orfold Fancy 13th.	15 Holmelay Lily 5th.
Born	...	...	...	...	...	Feb. 10, 1929. 1,405	Aug. 2, 1928. 1,484	Dec. 5, 1923. 1,539	Sept. 10, 1928. 1,225
Live weight, in lbs.	...	...	...	...	...	Sept. 16. 36	Sept. 28. 24	Sept. 26. 26	Aug. 25. 58
Last Calved	...	...	...	...	...
Days since Calving	...	...	...	...	...
Weight of Milk, 1st day	...	...	...	...	...	Morn. Aft. Even. 26.3 24.3 20.7	Morn. Aft. Even. 23.4 24.2 24.6	Morn. Aft. Even. 26.7 24.5 20.3	Morn. Aft. Even. 22.8 20.0 20.2
Weight of Milk, 2nd day	...	...	...	...	...	23.1 21.8 20.8	24.0 23.1 23.6	23.1 22.9 21.9	21.3 21.7 21.0
Total	...	...	...	...	...	49.4 40.1 41.5	47.4 49.3 48.2	49.8 47.4 42.2	44.1 41.7 41.2
Average	...	...	...	...	...	24.7 23.05 20.75	23.7 24.65 24.1	24.9 23.7 21.1	22.05 20.85 20.6
Percentage { Fat	...	...	...	...	...	3.30 3.75 3.24	3.31 3.77 4.42	5.27 5.42 4.00	3.69 2.78 3.08
Composition of { Solids other than Fat	...	...	...	...	...	3.87 8.40 8.88	9.17 9.11 9.12	9.49 8.90 9.36	8.65 8.26 8.90
the Milk. { Total Solids	...	...	...	...	...	12.96 12.44 12.97	12.48 12.88 13.54	14.76 14.32 13.36	12.34 11.04 11.98
Actual weight of Fat, in lbs.	...	...	...	...	...	0.837 0.864 0.672	0.784 0.929 1.065	1.312 1.285 0.844	---
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	2.19 2.00 1.84	2.17 2.25 2.20	2.36 2.11 1.97	---
Points—	...	...	...	...	...
For weight of Milk (lbs.)	...	...	...	...	...	68.50	72.45	69.70	---
For weight of Fat (lbs. \times 20)	...	...	...	...	...	47.46	55.56	68.82	---
For weight of Solids other than Fat (lbs. \times 4)	...	...	...	...	...	24.12	26.48	25.76	---
Total Points for Milk	...	...	...	...	...	140.08	154.49	164.28	---
Deductions	...	...	...	...	...	---	---	---	---
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	140.08	154.49	164.28	---
Points for time since Calving	...	...	...	...	...	---	---	---	---
TOTAL POINTS GAINED	...	...	...	...	...	140.08	154.49	164.28	---
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	99.70	104.10	106.74	---
Points for time since Calving	...	...	...	...	...	---	---	---	---
Total Points per 1,000 lbs. live weight	...	...	...	...	...	99.70	104.10	106.74	---
Remarks and Awards	...	...	...	...	...	Highly Commended.	Reserve.	2nd Prize.	1st qualified.

CLASS 2.—DAIRY SHORTHORN COW (BORN AFTER 1ST AUGUST, 1929, AND PREVIOUS TO 1ST AUGUST, 1931)—Continued.

Number Name	...	...	...	...	...	30 St. Clare Millicent 11th. June 27, 1930. 1,350 Aug. 31. 52	31 St. Clare Daffodil 13th. Aug. 31, 1930. 1,350 Aug. 13. 70	32 St. Clare Lady Wellesley. Dec. 26, 1930. 1,008 Sept. 27. 25	34 Aldenhall Lady Barrington. Aug. 18, 1930. 1,472 July 31. 83
Born	...	...	...	...	...	Morn.	Morn.	Morn.	Morn.
Live weight, in lbs.	...	...	...	...	...	Aft.	Aft.	Aft.	Aft.
Last Calved	...	...	...	...	...	Even.	Even.	Even.	Even.
Days since Calving	...	...	...	...	...	20.9	14.7	20.6	18.7
Weight of Milk, 1st day	...	...	...	...	...	22.1	16.1	21.8	19.5
Weight of Milk, 2nd day	...	...	...	...	...	21.1	15.4	21.4	15.7
Total	...	...	...	...	...	42.0	30.1	42.0	37.4
Average	...	...	...	...	...	21.0	15.05	21.0	18.7
Percentage { Fat	...	...	...	...	...	3.18	4.52	4.27	4.36
Composition of { Solids other than Fat	...	...	...	...	...	9.38	9.22	8.93	9.00
the Milk. { Total Solids	...	...	...	...	...	12.56	13.74	13.34	13.49
Actual weight of { Fat, in lbs.	...	...	...	...	...	0.608	0.680	0.914	0.835
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	1.97	1.39	1.94	1.69
Points—	...	...	...	...	...	64.15	45.55	64.35	54.40
For weight of Milk (lbs.)	...	...	...	...	...	51.28	41.10	58.76	50.72
For weight of Fat (lbs. \times 20)	...	...	...	...	...	23.76	16.60	23.20	19.48
For weight of Solids other than Fat (lbs. \times 4)	...	...	...	...	...	139.19	103.25	146.31	124.60
Total Points for Milk	...	...	...	...	...	139.19	103.25	146.31	124.60
Deductions	...	...	...	...	...	1.2	3.0	—	4.3
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	140.39	106.25	146.31	128.90
Points for time since Calving	...	...	...	...	...	108.10	76.14	145.15	84.65
TOTAL POINTS GAINED	...	...	...	...	...	1.2	3.0	—	4.3
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	104.30	79.14	145.15	88.95
Points for time since Calving	...	...	...	...	...	4th Prize.	Highly Commended.	3rd Prize.	Highly Commended.
Total Points per 1,000 lbs. live weight	...	...	...	...	...	4th Prize.	Highly Commended.	3rd Prize.	Highly Commended.
Remarks and Awards	...	...	...	...	...	4th Prize.	Highly Commended.	3rd Prize.	Highly Commended.

CLASS 2.—DAIRY SHORTHORN COW (BORN AFTER 1ST AUGUST, 1929, AND PREVIOUS TO 1ST AUGUST, 1931)—Continued.

Number Name	...	...	...	...	...	...	...	...	...	42 Revels Roan Annetta.	43 Revels Gentle.
Born	...	...	...	...	...	...	...	...	...	July 23, 1930. 1,302	Jan. 28, 1931. 1,188
Live weight, in lbs.	...	...	...	...	...	...	...	...	...	Sept. 10. 42	Sept. 9. 43
Last Calved	...	...	...	...	...	...	...	...	...
Days since Calving	...	...	...	...	...	...	...	...	...
Weight of Milk, 1st day	...	...	...	...	...	...	...	...	...	Morn. Aft. Even.	Morn. Aft. Even.
Weight of Milk, 2nd day	...	...	...	...	...	...	...	...	...	24.6 25.4 24.8	18.2 18.6 18.3
	...	...	...	...	...	...	...	...	...	23.2 22.1 20.8	18.5 15.7 15.0
Total	...	...	...	...	...	...	...	...	...	47.8 47.5 45.6	36.7 34.3 33.3
Average	...	...	...	...	...	...	...	...	...	23.9 23.75 22.8	18.35 17.15 16.65
Percentage Fat	...	...	...	...	...	...	...	...	...	3.66 4.24 4.22	3.40 4.18 3.91
Composition of Solids other than Fat	...	...	...	...	...	...	...	...	...	8.80 8.78 8.88	9.42 8.80 9.27
Actual weight of Fat, in lbs.	...	...	...	...	...	...	...	...	...	12.46 13.02 13.10	12.82 12.08 13.28
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	...	...	...	...	0.875 1.007 0.962	0.624 0.717 0.651
Points—	...	...	...	...	...	...	...	...	...	2.10 2.09 2.02	1.73 1.51 1.56
For weight of Milk (lbs.)	...	...	...	...	...	...	...	...	...	70.45	52.15
For weight of Fat (lbs. × 20)	...	...	...	...	...	...	...	...	...	56.88	39.84
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	...	...	...	...	24.84	19.20
Total Points for Milk	...	...	...	...	...	...	...	...	...	152.17	111.19
Deductions	...	...	...	...	...	...	...	...	...	—	—
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	...	...	...	...	152.17	111.19
Points for time since Calving	...	...	...	...	...	...	...	...	...	0.2	0.3
TOTAL POINTS GAINED	...	...	...	...	...	...	...	...	...	152.37	111.49
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	...	...	...	...	116.87	93.59
Points for time since Calving	...	...	...	...	...	...	...	...	...	0.2	0.3
Total Points per 1,000 lbs. live weight	...	...	...	...	...	...	...	...	...	117.07	93.89
Remarks and Awards	...	...	...	...	...	...	...	...	...	2nd Prize.	Highly Commended.

CLASS 3.—DAIRY SHORTHORN HEIFER, ENTERED IN OR ELIGIBLE FOR COATES' HERD BOOK. BORN ON OR AFTER 1ST AUGUST, 1931, AND HAVING PRODUCED ONLY ONE CALF.

Number	...	...	...	...	...	47	50	51	52
Name	...	...	...	...	...	Fothering Baroness Foggathorpe.	Hilland Pearl.	Histon Barrington 12th.	Histon Barrington 13th.
Born	...	...	...	...	...	Aug. 10, 1931. 1,063	Mar. 11, 1932. 1,157	Jan. 22, 1932. 1,138	Mar. 22, 1932. 1,207
Live weight, in lbs.	...	...	...	...	...	Oct. 3. 19	Sept. 27. 25	Sept. 24. 28	Oct. 5. 17
Last Calved	...	...	...	...	...
Days since Calving	...	...	...	...	...
Weight of Milk, 1st day	...	...	...	...	...	Morn. Aft. Even. 16.4 17.4 17.2 17.0 16.2 16.2	Morn. Aft. Even. 11.5 11.4 11.8 11.7 11.6 11.8	Morn. Aft. Even. 15.2 15.3 15.6 15.0 15.6 15.8	Morn. Aft. Even. 12.4 13.3 13.3 13.8 14.2 14.9
Weight of Milk, 2nd day	...	...	...	...	...
Total	...	...	...	...	...	33.4 33.6 33.4	23.2 23.0 23.6	31.1 30.9 31.4	26.2 27.5 28.2
Average	...	...	...	...	...	16.7 16.8 16.7	11.6 11.5 11.8	15.55 15.45 15.7	13.1 13.75 14.1
Percentage { Fat	...	...	...	...	...	2.15 3.17 2.78	4.93 5.41 5.17	4.95 4.70 4.19	4.73 5.88 5.28
Composition of { Solids other than Fat	...	...	...	...	...	8.87 8.87 8.86	9.73 9.70 9.50	9.73 9.17 9.15	9.13 9.02 9.36
the Milk. { Total Solids	...	...	...	...	...	11.02 12.04 11.64	14.66 14.70 14.70	14.68 13.96 13.34	13.86 14.90 14.64
Actual weight of Fat, in lbs.	...	...	...	...	...	0.359 0.533 0.464	0.572 0.622 0.610	0.770 0.710 0.658	0.620 0.800 0.744
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	1.48 1.49 1.48	1.13 1.07 1.13	1.51 1.42 1.44	1.20 1.24 1.32
Points—	...	...	...	...	...	50.20	34.30	46.70	40.95
For weight of Milk (lbs.)	...	...	...	...	...	27.12	30.08	43.36	43.46
For weight of Fat (lbs. × 20)	...	...	...	...	...	17.80	13.52	17.48	15.04
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...
Total Points for Milk	...	...	...	...	...	95.12	84.30	107.54	99.45
Deductions	...	...	...	...	...	20.0	—	—	—
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	75.12	84.30	107.54	99.45
Points for time since Calving	...	...	...	...	...	—	—	—	—
TOTAL POINTS GAINED	...	...	...	...	...	75.12	84.30	107.54	99.45
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	70.67	72.86	94.50	82.39
Points for time since Calving	...	...	...	...	...	—	—	—	—
Total Points per 1,000 lbs. live weight	...	...	...	...	...	70.67	72.86	94.50	82.39
Remarks and Awards	...	...	...	...	...	Highly Commended.	Highly Commended.	5th Prize.	Highly Commended.

CLASS 3.—DAIRY SHORTHORN HEIFER (BORN ON OR AFTER 1ST AUGUST, 1931)—Continued.

Number Name	...	...	...	...	...	...	...	53 Hastoe Lily 3rd. Nov. 19, 1931. 1,025 Sept. 11. 41	54 Hastoe Hurricane. Oct. 16, 1931. 1,021 Sept. 28. 24	55 Steventon Thirl Gazette. Aug. 18, 1931. 1,190 Sept. 9. 43	56 Steventon Dog Rose. Oct. 3, 1931. 1,143 Aug. 23. 60
Born	...	...	...	...	...	...	...	Morn.	Aft.	Even.	Morn.
Live weight, in lbs.	...	...	...	...	...	...	...	13.3	13.4	13.3	20.1
Last Calved	...	...	...	...	...	...	...	13.7	14.2	13.0	18.8
Days since Calving	...	...	...	...	...	...	...	21.5	21.8	21.4	18.4
Weight of Milk, 1st day	...	...	...	...	...	...	...	42.9	42.1	40.4	36.7
Weight of Milk, 2nd day	...	...	...	...	...	...	...	21.45	21.05	20.2	18.35
Percentage { Fat	...	...	...	...	...	...	...	3.16	2.84	2.41	3.02
Composition of { Solids other than Fat	...	...	...	...	...	...	...	8.82	8.78	8.37	8.07
the Milk. { Total Solids	...	...	...	...	...	...	...	11.98	11.62	10.78	12.04
Actual weight of Fat, in lbs.	...	...	...	...	...	...	...	0.277	0.301	0.268	0.587
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	...	...	1.31	1.31	1.24	1.75
Points—	...	...	...	...	...	...	...	40.45	42.81	39.70	56.00
For weight of Milk (lbs.)	...	...	...	...	...	...	...	16.92	16.92	32.70	38.58
For weight of Fat (lbs. x 20)	...	...	...	...	...	...	...	15.44	15.44	14.44	20.12
For weight of Solids other than Fat (lbs. x 4)	...	...	...	...	...	...	...	72.81	72.81	86.84	112.70
Total Points for Milk	...	...	...	...	...	...	...	30.0	30.0	—	—
Deductions	...	...	...	...	...	...	...	—	—	—	—
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	...	...	42.81	42.81	86.84	112.70
Points for time since Calving	...	...	...	...	...	...	...	—	—	0.3	2.0
TOTAL POINTS GAINED	...	...	...	...	...	...	...	42.81	42.81	87.14	114.70
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	...	...	41.93	41.93	72.97	98.60
Points for time since Calving	...	...	...	...	...	...	...	—	—	0.3	2.0
Total Points per 1,000 lbs. live weight	...	...	...	...	...	...	...	41.93	41.93	73.27	100.80
Remarks and Awards	...	...	...	...	...	...	...	Disqualified.	Highly Commended.	—	2nd Prize.

CLASS 3.—DAIRY SHORTHORN HEIFER (BORN ON OR AFTER 1ST AUGUST, 1931)—Continued.

Number Name	72 Lockinge Solo 8th.	73 Revels Excellence.	74 Revels Ruby.	75 Revels Maggie's Mabed.
Born	Oct. 18, 1931. 1,008	Feb. 13, 1932. 994	Nov. 24, 1931. 1,170	Oct. 20, 1931. 846
Live weight, in lbs.	Sept. 3. 49	Sept. 3. 49	Sept. 7. 45	Sept. 12. 40
Last Calved	...	...	...	...
Days since Calving	...	...	...	...
Weight of Milk, 1st day	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Weight of Milk, 2nd day	12.2 12.6 12.1	10.3 11.1 10.9	13.1 13.4 12.7	17.4 17.9 17.6
	12.5 13.7 12.7	10.0 10.5 9.1	12.4 11.3 8.3	17.1 17.2 16.8
Total	24.7 26.3 24.8	20.3 21.4 20.0	25.5 24.7 21.0	34.5 35.1 34.4
Average	12.35 13.15 12.4	10.15 10.7 10.0	12.75 12.35 10.5	17.25 17.55 17.2
Percentage { Fat ...	4.00 3.62 4.30	3.00 3.03 4.03	3.80 3.80 3.58	3.30 3.70 4.19
Composition of { Solids other than Fat ...	9.73 9.32 9.29	9.27 8.97 8.99	9.42 9.08 9.20	9.33 8.95 9.05
the Milk. { Total Solids ...	13.82 12.94 13.68	12.30 12.90 13.02	13.22 12.88 12.78	12.72 12.74 13.24
Actual weight of Fat, in lbs.	0.505 0.476 0.544	0.314 0.421 0.403	0.456 0.409 0.376	0.585 0.605 0.721
Actual weight of Solids other than Fat, in lbs.	1.20 1.23 1.15	0.34 0.36 0.90	1.20 1.12 0.97	1.61 1.57 1.56
Points—				
For weight of Milk (lbs.)	37.90	30.85	35.60	52.00
For weight of Fat (lbs. × 20)	30.39	22.70	26.60	39.42
For weight of Solids other than Fat (lbs. × 4)	13.32	11.20	13.16	18.96
Total Points for Milk	82.72	64.81	75.36	110.38
Deductions ...	...	...	...	...
TOTAL POINTS GAINED FOR MILK	82.72	64.81	75.36	110.38
Points for time since Calving	0.9	0.9	0.5	...
TOTAL POINTS GAINED	83.62	65.71	75.86	110.38
Points gained for Milk per 1,000 lbs. live weight	82.06	65.20	64.41	130.47
Points for time since Calving	0.9	0.9	0.5	...
Total Points per 1,000 lbs. live weight	82.96	66.10	64.91	130.47
Remarks and Awards	Highly Commended.	Highly Commended.	Highly Commended.	3rd Prize.

CLASS 4.—DAIRY SHORTHORN COW, NOT ELIGIBLE FOR CLASSES 1 OR 2. COWS ENTERED IN THIS CLASS MUST HAVE YIELDED A MINIMUM OF 8,000 LBS. AT FIVE YEARS OLD OR OVER, OR 6,000 LBS. AT UNDER FIVE YEARS OLD DURING A LACTATION PERIOD OF 45 WEEKS, RECORDED BY A RECOGNISED MILK RECORDING SOCIETY.

Number Name	78 Tonasina.	79 Rosenary.	80 Fanny.	81 Daisy 5th.
Born	1931.	Unknown.	Unknown.	Nov. 18, 1928.
Live weight, in lbs.	1038	1415	1250	1438
Last Calved	Sept. 27.	Sept. 26.	Sept. 17.	Sept. 16.
Days since Calving	25	26	35	36
Weight of Milk, 1st day	Morn. 17.5 Aft. 16.9 Even. 15.6	Morn. 23.0 Aft. 26.0 Even. 25.9	Morn. 30.6 Aft. 28.3 Even. 29.0	Morn. 23.1 Aft. 27.8 Even. 25.4
Weight of Milk, 2nd day	18.2	21.6	28.9	26.9
Total	35.7	44.6	59.5	50.0
Average	17.85	22.3	29.75	25.0
Percentage (Fat	3.64	3.00	3.75	2.68
Composition of Solids other than Fat	9.52	8.91	9.20	8.92
the Milk	13.16	12.25	13.04	11.60
Actual weight of Fat, in lbs.	0.450	0.669	1.116	0.670
Actual weight of Solids other than Fat, in lbs.	1.70	2.06	2.70	2.23
Points—	49.60	72.50	88.05	78.65
For weight of Milk (lbs.)	45.04	54.50	69.42	56.56
For weight of Fat (lbs. × 20)	18.28	26.08	32.20	27.68
For weight of Solids other than Fat (lbs. × 4)	113.52	153.08	189.67	162.89
Total Points for Milk	113.52	153.08	189.67	152.89
Deductions	—	—	—	—
TOTAL POINTS GAINED FOR MILK	113.52	153.08	189.67	152.89
Points for time since Calving	—	—	—	—
TOTAL POINTS GAINED	113.52	153.08	189.67	152.89
Points gained for Milk per 1,000 lbs. live weight	109.36	108.18	151.74	106.32
Points for time since Calving	—	—	—	—
Total Points per 1,000 lbs. live weight	109.36	108.18	151.74	106.32
Remarks and Awards	Highly Commended.	3rd Prize.	1st Prize.	Reserve.

Number Name	...	...	...	...	...	...	...	...	90 Ascots Daisy.	91 Tulip.	98 Jean 2nd.
Born	...	...	...	...	...	...	...	...	Nov. 5, 1931. 808 Sept. 26. 26	Unknown, 1,029 Sept. 25. 27	Unknown 1,048 Oct. 2. 20
Live weight, in lbs.	...	...	...	...	...	...	...	...	Morn. Aft. Even. 16.0 16.5 16.2	Morn. Aft. Even. 11.7 12.3 11.7	Morn. Aft. Even. 13.7 14.0 13.8
Last Calved	...	...	...	...	...	...	...	...	16.6 16.1 16.6	12.0 11.7 11.5	13.7 13.9 14.0
Days since Calving	...	...	...	...	...	...	...	...	32.6 32.6 32.8	23.7 24.0 23.2	27.4 27.0 27.8
Weight of Milk, 1st day	...	...	...	...	...	...	...	...	16.3 16.3 16.4	11.85 12.0 11.6	13.7 13.95 13.9
Weight of Milk, 2nd day	...	...	...	...	...	...	...	...	3.82 5.16 4.81	3.85 4.36 4.21	4.10 5.15 4.25
Percentage { Fat	...	...	...	...	...	...	...	...	9.08 9.24 9.11	9.07 9.08 8.95	9.10 8.97 8.71
Composition of { Solids other than Fat	...	...	...	...	...	...	...	...	12.98 14.40 13.92	12.92 13.44 13.16	13.20 14.12 12.96
the MILK. { Total Solids	...	...	...	...	...	...	...	...	0.024 0.841 0.780	0.456 0.523 0.488	0.562 0.718 0.591
Actual weight of Fat, in lbs.	...	...	...	...	...	...	...	...	1.48 1.61 1.49	1.97 1.99 1.04	1.25 1.25 1.21
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	...	...	...	49.00	35.45	41.55
Points—	...	...	...	...	...	...	...	...	45.06	29.34	37.42
For weight of Milk (lbs.)	...	...	...	...	...	...	...	...	17.92	12.80	14.84
For weight of Fat (lbs. x 20)	...	...	...	...	...	...	...	...	111.98	77.59	93.81
For weight of Solids other than Fat (lbs. x 4)	...	...	...	...	...	...	...	...	111.98	77.59	93.81
Total Points for Milk	...	...	...	...	...	...	...	...	111.98	77.59	93.81
Deductions	...	...	...	...	...	...	...	...	---	---	---
Total Points GAINED FOR MILK	...	...	...	...	...	...	...	...	111.98	77.59	93.81
Points for time since Calving	...	...	...	...	...	...	...	...	---	---	---
TOTAL POINTS GAINED	...	...	...	...	...	...	...	...	111.98	77.59	93.81
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	...	...	...	124.70	75.40	89.51
Points for time since Calving	...	...	...	...	...	...	...	...	---	---	---
Total Points per 1,000 lbs. live weight	...	...	...	...	...	...	...	...	124.70	75.40	89.51
Remarks and Awards	...	...	...	...	...	...	...	...	1st Prize.	Highly Commended.	Reserve.

CLASS 5.—DAIRY SHORTHORN HELPER (BORN ON OR AFTER 1ST AUGUST, 1931)—Continued.

Number Name	...	...	...	...	...	...	94 Dairymaid.	95 Fillpail.
Born	...	...	...	...	...	...	Unknown, 901 Sept. 20, 32	Unknown, 1,012 Oct. 1, 31
Live weight, in lbs.	...	...	...	...	...	...	Morn. 15.1	Morn. 15.3
Last Calved	...	...	...	...	...	...	Aft. 15.0	Aft. 14.0
Days since Calving	...	...	...	...	...	...	Even. 13.4	Even. 14.0
Weight of Milk, 1st day	...	...	...	...	...	...	15.9	15.9
Weight of Milk, 2nd day	...	...	...	...	...	...	14.6	15.7
Total	...	...	...	...	...	...	29.7	31.0
Average	...	...	...	...	...	...	28.4	28.9
Percentage Fat	...	...	...	...	...	...	31.5	32.3
Composition of Solids other than Fat	...	...	...	...	...	...	15.5	14.45
the Milk. { Total Solids	...	...	...	...	...	...	14.85	16.15
Actual weight of Fat, in lbs.	...	...	...	...	...	...	4.43	5.28
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	...	9.17	4.64
Points	...	...	...	...	...	...	4.38	3.82
For weight of Milk (lbs.)	...	...	...	...	...	...	0.06	0.34
For weight of Fat (lbs. \times 20)	...	...	...	...	...	...	13.44	8.80
For weight of Solids other than Fat (lbs. \times 4)	...	...	...	...	...	...	12.88	13.98
Total Points for Milk	...	...	...	...	...	...	0.668	0.818
Deductions	...	...	...	...	...	...	1.36	1.35
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	...	1.29	1.38
Points for time since Calving	...	...	...	...	...	...	44.80	46.10
TOTAL POINTS GAINED	...	...	...	...	...	...	38.58	42.10
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	...	16.12	16.56
Points for time since Calving	...	...	...	...	...	...	99.50	104.76
Total Points per 1,000 lbs. live weight	...	...	...	...	...	...	99.50	104.76
Remarks and Awards	...	...	...	...	...	...	100.40	103.52
...	...	...	...	...	...	...	100.40	103.52
...	...	...	...	...	...	...	3rd Prize.	2nd Prize.

CLASS 6.—LINCOLNSHIRE RED SHORTHORN COW, ENTERED IN OR ACCEPTED FOR THE HERD BOOK. COWS ENTERED IN THIS CLASS MUST HAVE YIELDED A MINIMUM OF 7,000 LBS. AT FIVE YEARS OLD OR OVER, OR 5,250 LBS. AT UNDER FIVE YEARS OLD EITHER DURING A LACTATION PERIOD OF 45 WEEKS OR FOR ANY ONE COMPLETED YEAR OF A RECOGNISED MILK RECORDING SOCIETY.

Number Name	...	...	...	...	...	...	...	103 Bendish Sunbeam 12th. May 5, 1930. 1,438 Sept. 11. 41	104 Bendish Poppy 9th. Feb. 28, 1925. 1,481 May 17. 158	105 Wrattling Sunbeam. Sept. 19, 1930. 1,383 Sept. 11. 41
Born	...	...	...	...	...	...	...
Live weight, in lbs.	...	...	...	...	...	...	...
Last Calved	...	...	...	...	...	...	...
Days since Calving	...	...	...	...	...	...	...
Weight of Milk, 1st day	...	...	...	...	...	...	...	Morn.	Aft.	Even.
Weight of Milk, 2nd day	...	...	...	...	...	...	...	13.6	16.2	17.8
	...	...	...	...	...	...	...	14.7	17.4	17.1
	...	...	...	...	...	...	...	28.3	33.6	34.9
Total	...	...	...	...	...	...	...	14.15	16.8	16.35
Average	...	...	...	...	...	...	...	3.83	5.13	4.09
Percentage { Fat	...	...	...	...	...	...	...	8.87	9.01	8.54
Composition of { Solids other than Fat	...	...	...	...	...	...	...	12.70	14.14	12.88
the Milk. { Total Solids	...	...	...	...	...	...	...	0.542	0.802	0.600
Actual weight of Fat, in lbs.	...	...	...	...	...	...	...	1.26	1.51	1.45
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	...	...	47.30	49.30	53.22
Points—	...	...	...	...	...	...	...	16.88	17.12	10.08
For weight of Milk (lbs.)	...	...	...	...	...	...	...	105.64	119.64	73.76
For weight of Fat (lbs. x 20)	...	...	...	...	...	...	...	105.64	119.64	73.76
For weight of Solids other than Fat (lbs. x 4)	...	...	...	...	...	...	...	105.64	119.64	73.76
Total Points for Milk	...	...	...	...	...	...	...	105.64	119.64	73.76
Deductions	...	...	...	...	...	...	...	0.1	11.8	0.1
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	...	...	105.74	131.44	73.86
Points for time since Calving	...	...	...	...	...	...	...	73.46	80.78	55.33
TOTAL POINTS GAINED	...	...	...	...	...	...	...	0.1	11.8	0.1
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	...	...	73.56	92.58	55.43
Points for time since Calving	...	...	...	...	...	...	...
Total Points per 1,000 lbs. live weight	...	...	...	...	...	...	...
Remarks and Awards	...	...	...	...	...	...	...	2nd Prize.	1st Prize.	

CLASS 8.—BRITISH FRIESIAN COW, ENTERED IN OR ACCEPTED FOR THE HERD BOOK OR THE SUPPLEMENTARY REGISTER.
 BORN ON OR PREVIOUS TO 1ST AUGUST, 1929. COWS ENTERED IN THIS CLASS MUST HAVE YIELDED A MINIMUM OF 8,000 LBS.
 AT FIVE YEARS OLD OR OVER, OR 6,000 LBS. AT UNDER FIVE YEARS OLD EITHER DURING A LACTATION PERIOD OF 45 WEEKS
 OR FOR ANY ONE COMPLETED YEAR OF A RECOGNISED MILK RECORDING SOCIETY.

Number Name	...	...	...	...	...	...	117 Tertling Eclipse 15th.	120 Tertling Profit 9th.	121 Curbridge Jessamine.	122 Glyndeboune Disley 2nd.
Born	...	...	...	...	...	...	Jan. 2, 1926. 1,458 Sept. 12, 40	July 2, 1927. 1,304 Aug. 20, 63	Mar. 2, 1929. 1,390 Oct. 6, 16	Nov. 24, 1928. 1,423 Sept. 12, 40
Live weight, in lbs.	...	...	...	...	...	...	Morn. Aft. Even. 25.4 25.3 29.4	Morn. Aft. Even. 27.9 23.4 23.2	Morn. Aft. Even. 34.3 33.8 33.8	Morn. Aft. Even. 31.8 33.6 32.1
Last Calved	...	...	...	...	...	...	27.0 25.2 29.5	24.2 23.7 23.3	35.1 31.2 31.8	31.8 33.6 32.1
Days since Calving	...	...	...	...	...	...	52.4 50.5 53.9	52.1 48.1 40.5	60.4 64.7 65.2	63.1 58.1 62.5
Weight of Milk, 1st day	...	...	...	...	...	...	26.2 25.25 20.45	26.05 24.05 23.25	34.7 32.35 32.6	31.55 29.05 31.25
Weight of Milk, 2nd day	...	...	...	...	...	...	3.26 2.74 3.67	3.86 4.18 3.44	8.59 8.15 3.00	8.72 3.05 2.69
Average	...	...	...	...	...	...	8.40 8.86 8.51	8.94 8.22 7.38	8.45 8.27 8.26	8.28 7.83 7.95
Percentage (Fat	...	...	...	...	...	...	11.06 11.60 12.18	12.80 12.40 11.42	12.64 11.42 11.26	12.00 10.88 10.64
Composition of Solids other than Fat	...	...	...	...	...	...	0.854 0.692 1.081	1.006 1.005 0.800	1.246 1.019 0.978	— — —
Milk.	...	...	...	...	...	...	2.20 2.24 2.51	2.33 1.98 1.86	2.93 2.63 2.69	— — —
Total Solids	...	...	...	...	...	...	80.90	73.35	99.65	— — —
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	...	52.54	56.22	64.86	— — —
Points—	...	...	...	...	...	...	27.80	24.68	33.20	— — —
For weight of Milk (lbs.)	...	...	...	...	...	...	161.24	154.25	197.71	— — —
For weight of Fat (lbs. × 20)	...	...	...	...	...	...	20.0	20.0	30.0	— — —
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	...	141.24	134.25	167.71	— — —
Total Points for Milk	...	...	...	...	...	...	—	2.3	—	— — —
Deductions	...	...	...	...	...	...	141.24	136.55	167.71	— — —
TOTAL POINTS GAINED	...	...	...	...	...	...	96.87	102.95	120.65	— — —
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	...	—	2.3	—	— — —
Points for time since Calving	...	...	...	...	...	...	96.87	105.25	120.65	— — —
Total Points per 1,000 lbs. live weight	...	...	...	...	...	...	Highly Commended.	Highly Commended.	Reserve.	Disqualified.
Remarks and Awards	...	...	...	...	...	...	Highly Commended.	Highly Commended.	Reserve.	Disqualified.

CLASS 8.—BRITISH FRIESIAN COW (BORN ON OR PREVIOUS TO 1ST AUGUST, 1929)—Continued.

Number Name	123 Hawthorn Katja.	124 Felhampton Groundsel.	126 Laverham Chancery 3rd.	127 Covenbrook Lively 2nd.
Born	May 6, 1927.	May 21, 1924.	Aug. 12, 1925.	Feb. 4, 1926.
Live weight, in lbs.	1,453	1,486	1,631	1,487
Last Calved	Oct. 8.	Oct. 6.	July 1.	June 7.
Days since Calving	14	16	113	137
Weight of Milk, 1st day	Morn. 23.7 Aft. 22.6 Even. 23.1	Morn. 23.2 Aft. 24.1 Even. 26.2	Morn. 28.0 Aft. 25.8 Even. 29.9	Morn. 33.2 Aft. 31.3 Even. 30.7
Weight of Milk, 2nd day	23.0 46.3 47.3	23.2 45.6 48.0	30.3 53.5 57.7	27.2 56.0 56.5
Total	40.7	50.1	58.3	60.4
Average	23.35	25.05	29.15	30.2
Percentage (Fat Fat	3.82	4.87	4.03	3.22
Composition of Solids other than Fat	9.48	8.69	8.53	8.80
the Milk. { Total Solids	13.30	13.56	12.56	12.02
Actual weight of Fat, in lbs.	0.892	1.220	1.175	0.972
Actual weight of Solids other than Fat, in lbs.	2.21	2.18	2.40	2.06
Points—				
For weight of Milk (lbs.)	70.15	71.85	84.75	86.45
For weight of Fat (lbs. × 20)	58.06	64.73	60.34	60.88
For weight of Solids other than Fat (lbs. × 4)	25.80	24.92	29.20	29.72
Total Points for Milk	154.01	161.50	174.29	177.05
Deductions	—	—	—	10.0
TOTAL POINTS GAINED FOR MILK	154.01	161.50	174.29	167.05
Points for time since Calving	—	—	7.3	9.7
TOTAL POINTS GAINED	154.01	161.50	181.59	176.75
Points gained for Milk per 1,000 lbs. live weight	107.47	108.54	106.86	112.34
Points for time since Calving	—	—	7.3	9.7
Total Points per 1,000 lbs. live weight	107.47	108.54	114.16	122.04
Remarks and Awards	Highly Commended.	Highly Commended.	2nd Prize.	3rd Prize.

CLASS 8.—BRITISH FRIESIAN COW (BORN ON OR PREVIOUS TO 1ST AUGUST, 1929)—Continued.

Number Name	...	...	...	...	...	...	...	132 Oakham Dainty.	133 Barstow Merrymaid 2nd.	134 Abingworth Dainty.	135 Chobbard Janrosa.
Born	...	...	...	...	...	...	...	Apr. 20, 1927. 1,599 Oct. 1. 21	Mar. 18, 1926. 1,405 Sept. 22. 30	Aug. 2, 1928. 1,318 Sept. 28. 24	Feb. 11, 1929. 1,381 Oct. 5. 17
Live weight, in lbs.	...	...	...	...	...	...	...	Morn. Aft. Even. 32.2 29.7 29.8 30.5 30.3 29.4	Morn. Aft. Even. 24.5 24.8 25.8 27.2 27.4 27.3	Morn. Aft. Even. 25.4 24.4 26.0 22.6 24.3 21.9	Morn. Aft. Even. 25.8 27.0 26.5
Last Calved	...	...	...	...	...	...	...	...	...	...	...
Days since Calving	...	...	...	...	...	...	...	...	...	...	...
Weight of Milk, 1st day	...	...	...	...	...	...	...	62.7 60.6 50.2	51.7 52.2 53.1	48.0 48.7 47.9	48.4 54.3 50.9
Weight of Milk, 2nd day	...	...	...	...	...	...	...	...	...	...	...
Total	...	...	...	...	...	...	...	31.35 30.0 29.6	25.35 26.1 26.55	24.0 24.35 23.95	24.2 27.15 25.45
Average	...	...	...	...	...	...	...	4.63 4.48 3.96	3.83 4.84 4.10	3.85 5.14 5.07	3.06 3.92 4.02
Percentage { Fat	...	...	...	...	...	...	...	8.61 8.88 8.66	8.57 8.70 8.56	8.50 8.82 8.81	8.60 8.70 8.62
Composition of { Solids other than Fat	...	...	...	...	...	...	...	13.24 13.36 12.62	12.40 13.54 12.66	12.35 13.96 13.88	11.66 12.62 12.64
the Milk. { Total Solids	...	...	...	...	...	...	...	1.452 1.344 1.172	0.990 1.263 1.089	0.924 1.252 1.214	0.741 1.064 1.023
Actual weight of Fat in lbs.	...	...	...	...	...	...	...	2.70 2.66 2.56	2.22 2.27 2.27	2.04 2.15 2.11	2.08 2.36 2.19
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	...	...	...	...	...	...
Points—	...	...	...	...	...	...	...	90.95	78.50	72.30	70.80
For weight of Milk (lbs.)	...	...	...	...	...	...	...	79.36	66.84	67.80	66.56
For weight of Fat (lbs. x 20)	...	...	...	...	...	...	...	31.68	27.04	25.20	26.52
For weight of Solids other than Fat (lbs. x 4)	...	...	...	...	...	...	...	...	...	...	...
Total Points for Milk	...	...	...	...	...	...	...	201.99	172.38	165.30	159.88
Deductions	...	...	...	...	...	...	...	...	...	...	...
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	...	...	201.99	172.38	165.30	159.88
Points for time since Calving	...	...	...	...	...	...	...	...	...	...	...
TOTAL POINTS GAINED	...	...	...	...	...	...	...	201.99	172.38	165.30	159.88
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	...	...	126.32	122.69	125.42	115.77
Points for time since Calving	...	...	...	...	...	...	...	...	...	...	...
Total Points per 1,000 lbs. live weight	...	...	...	...	...	...	...	126.32	122.69	125.42	115.77
Remarks and Awards	...	...	...	...	...	...	...	1st Prize.	4th Prize.	Highly Commended.	Highly Commended.

CLASS 9.—BRITISH FRISPIAN COW, ENTERED IN OR ACCEPTED FOR THE HERD BOOK OR THE SUPPLEMENTARY REGISTER.
BORN AFTER 1ST AUGUST, 1929, AND PREVIOUS TO 1ST AUGUST, 1931.

Number Name	137 Lund Bleachly's Juliana.	140 Tisted Sylvia.	141 Marshallgreen Kathleen.	146 Piddington Flora.
Born	Mar. 18, 1930. 1450	Oct. 1929. 1254	Sept. 6, 1929. 1417	Oct. 31, 1929. 1351
Live weight, in lbs.	Sept. 24. 28	July 19. 95	Sept. 22. 30	Oct. 3 19
Last Calved				
Days since Calving				
Weight of Milk, 1st day	Morn. Aft. Even. 23.0 20.7 26.9	Morn. Aft. Even. 17.6 16.2 15.7	Morn. Aft. Even. 25.6 23.4 26.6	Morn. Aft. Even. 22.7 23.3 22.7
Weight of Milk, 2nd day	24.0 28.2 21.9	19.4 19.5 17.6	22.5 20.9 20.9	23.5 24.2 23.2
Total	52.0 54.9 48.8	37.0 35.7 33.3	48.1 50.3 47.5	46.2 47.5 45.9
Average	26.0 27.45 24.4	18.5 17.85 16.65	24.05 25.15 23.75	23.1 23.75 23.05
Percentage (Fat	4.00 3.87 3.63	4.30 4.35 3.65	4.33 3.61 3.71	5.00 5.30 4.19
Composition of Solids other than Fat	8.64 8.71 8.65	8.58 8.23 8.37	9.25 8.87 8.81	8.74 8.92 8.77
the Milk. { Total Solids	12.64 12.58 12.28	12.88 12.58 12.02	13.58 12.48 12.52	13.74 14.22 12.96
Actual weight of Fat, in lbs.	1.040 1.002 0.886	0.796 0.776 0.608	1.041 0.908 0.881	1.155 1.250 0.962
Actual weight of Solids other than Fat, in lbs.	2.25 2.39 2.11	1.59 1.47 1.39	2.22 2.23 2.09	2.02 2.12 2.01
Points—				
For weight of Milk (lbs.)	77.85	53.00	72.95	69.80
For weight of Fat (lbs. × 20)	53.76	43.60	56.60	67.52
For weight of Solids other than Fat (lbs. × 4)	27.00	17.80	26.16	24.60
Total Points for Milk	164.61	114.40	155.71	161.92
Deductions	—	20.0	—	—
TOTAL POINTS GAINED FOR MILK	164.61	94.40	155.71	161.92
Points for time since Calving	—	5.5	—	—
TOTAL POINTS GAINED	164.61	99.90	155.71	161.92
Points gained for Milk per 1,000 lbs. live weight	113.06	74.68	109.89	119.85
Points for time since Calving	—	5.5	—	—
Total Points per 1,000 lbs. live weight	113.06	80.18	109.89	119.85
Remarks and Awards	1st Prize.	Highly Commended.	3rd Prize.	2nd Prize.

CLASS 10.—BRITISH FRIESIAN
HEIFER, ENTERED IN OR ELIGIBLE
FOR THE HERD BOOK OR THE
SUPPLEMENTARY REGISTER, BORN
ON OR AFTER 1ST AUGUST, 1931, AND
HAVING PRODUCED ONLY ONE CALF.

CLASS 9.—BRITISH FRIESIAN COW (BORN AFTER 1ST AUGUST, 1929, AND
PREVIOUS TO 1ST AUGUST, 1931)—Continued.

Number Name	...	...	...	...	...	147 Piddington Festus Daisy.	148 Ingatesstone Lady Betty.	151 Crawley Belinda 2nd.	153 Piddington Passion.
Born	...	...	...	...	...	Oct. 19, 1930. 1,313 Sept. 24, 28	July 31, 1930. 1,293 Oct. 7, 15	Sept. 15, 1931. 1,086 Sept. 18, 34	Oct. 20, 1931. 922 Oct. 2, 20
Live weight, in lbs.	...	...	...	...	...	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Last Calved	...	...	...	...	...	21.1 22.9 23.6	27.3 30.0 28.8	15.2 13.4 14.4	16.2 15.9 13.9
Days since Calving	...	...	...	...	...	23.5 23.1 23.5	28.6 28.2 27.2	15.0 14.5 13.3	16.7 16.1 16.4
Weight of Milk, 1st day	...	...	...	...	...	44.6 46.0 47.1	55.9 58.2 56.0	30.2 27.9 27.7	32.9 32.0 32.3
Weight of Milk, 2nd day	...	...	...	...	...	22.3 23.0 23.55	27.95 29.1 28.0	15.1 13.95 13.85	10.45 10.0 10.15
Average	...	...	...	...	...	4.83 4.12 4.34	3.37 3.43 3.36	4.05 3.69 3.63	3.50 3.03 3.72
Percentage Fat	...	...	...	...	...	8.59 8.76 8.50	8.39 8.43 8.42	8.65 8.97 8.57	8.28 8.66 8.40
Composition of Milk.	...	...	...	...	...	12.92 12.88 12.84	11.76 11.86 11.78	12.70 12.66 12.20	11.84 12.34 12.12
Total Solids	...	...	...	...	...	0.966 0.948 1.022	0.942 0.998 0.941	0.612 0.515 0.503	0.586 0.589 0.601
Actual weight of Fat, in lbs.	...	...	...	...	...	1.92 2.01 2.00	2.35 2.45 2.36	1.81 1.25 1.19	1.36 1.39 1.36
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	68.85	85.05	42.90	48.00
Points—	...	...	...	...	...	58.72	57.62	32.60	35.52
For weight of Milk (lbs.)	...	...	...	...	...	23.72	28.04	15.00	16.44
For weight of Fat (lbs. × 20)	...	...	...	...	...	151.29	171.31	90.50	100.56
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	—	30.0	—	20.0
Total Points for Milk	...	...	...	...	...	151.29	141.31	90.50	80.56
Deductions	...	...	...	...	...	—	—	—	—
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	151.29	141.31	90.50	80.56
Points for time since Calving	...	...	...	...	...	115.22	109.29	83.33	87.38
TOTAL POINTS GAINED	...	...	...	...	...	115.22	109.29	83.33	87.38
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	—	—	—	—
Points for time since Calving	...	...	...	...	...	—	—	—	—
Total Points per 1,000 lbs. live weight	...	...	...	...	...	—	—	—	—
Remarks and Awards	...	...	...	...	...	Reserve.	Highly Commended.	3rd Prize.	Reserve.

CLASS 11.—SOUTH DEVON COW, ENTERED IN OR ACCEPTED FOR THE HERD BOOK. BORN ON OR PREVIOUS TO 1ST AUGUST, 1929. COWS ENTERED IN THIS CLASS MUST HAVE YIELDED A MINIMUM OF 7,500 LBS. AT FIVE YEARS OLD OR OVER, OR 5,600 LBS. AT UNDER FIVE YEARS OLD EITHER DURING A LACTATION PERIOD OF 45 WEEKS, OR FOR ANY ONE COMPLETED YEAR OF A RECOGNISED MILK RECORDING SOCIETY.

Number Name	100 Crocus.	101 Gracful.	102 Englebourne Daisy 7th.	105 Manor Dora.
Born	Apr. 6, 1929. 1,691	May 22, 1928. 1,536	Apr. 28, 1926. 1,598	Nov. 17, 1926. 1,370
Live weight, in lbs.	Sept. 17. 35	Sept. 15. 37	Sept. 6. 46	Sept. 1. 51
Last Calved				
Days since Calving				
Weight of Milk, 1st day	Morn. Aft. Even. 25.0 20.0 18.0	Morn. Aft. Even. 22.8 27.6 20.1	Morn. Aft. Even. 20.5 19.3 20.2	Morn. Aft. Even. 24.5 20.1 22.6
Weight of Milk, 2nd day	16.2 17.7 36.9	21.7 21.5 20.1	19.4 20.0 20.0	22.6 22.0 23.1
Total	41.2 37.7 36.9	44.5 35.2 47.7	39.9 39.3 40.2	47.1 42.1 45.7
Average	20.6 18.85 18.45	22.25 17.6 23.85	19.95 19.65 20.1	23.55 21.05 22.85
Percentage (Fat Fat	5.00 5.99 5.60	5.56 3.71 5.27	4.65 4.60 4.18	4.15 3.65 4.21
Composition of Solids other than Fat	8.72 8.11 8.50	9.10 9.65 8.99	8.89 9.02 8.91	8.27 8.41 8.31
the Milk. { Total Solids	13.72 14.10 14.10	14.66 13.36 14.26	13.54 13.62 13.08	12.42 12.06 12.52
Actual weight of Fat, in lbs.	1.030 1.129 1.033	1.237 0.653 1.257	0.928 0.904 0.840	0.977 0.768 0.862
Actual weight of Solids other than Fat, in lbs.	1.80 1.53 1.57	2.02 1.70 2.14	1.77 1.77 1.79	1.95 1.77 1.90
Points—				
For weight of Milk (lbs.)	57.90	63.70	59.70	67.45
For weight of Fat (lbs. x 20)	68.84	62.94	58.84	54.11
For weight of Solids other than Fat (lbs. x 4)	19.60	23.44	21.52	22.48
Total Points for Milk	141.34	150.08	134.46	144.07
Deductions	10.0	—	—	30.0
TOTAL POINTS GAINED FOR MILK	131.34	150.08	134.46	114.07
Points for time since Calving	—	—	0.6	1.1
TOTAL POINTS GAINED	131.34	150.08	135.06	115.17
Points gained for Milk per 1,000 lbs. live weight	77.67	97.90	84.14	83.26
Points for time since Calving	—	—	0.6	1.1
Total Points per 1,000 lbs. live weight	77.67	97.90	84.74	84.36
Remarks and Awards	Highly Commended.	1st Prize.	Reserve.	Highly Commended.

CLASS 11.—SOUTH DEVON COW (BORN ON OR PREVIOUS TO 1ST AUGUST, 1929—Continued.

CLASS 12.—SOUTH DEVON COW.
ENTERED IN OR ACCEPTED FOR
THE HERD BOOK. BORN AFTER
1ST AUGUST, 1929, AND PREVIOUS
TO 1ST AUGUST, 1931.

Number Name	...	...	...	...	...	166 Dartington Vera.	167 Cinderella.	168 Dartington Hall Pat 2nd.	169 Dartington Hall Gentle 8th.
Born	...	...	...	...	...	Mar., 1927. 1,206 Sept. 28. 29	June 22, 1929. 1,623 Aug. 28. 35	Aug. 6, 1930. 1,384 Sept. 7. 45	Oct. 12, 1930. 1,486 Sept. 21. 31
Live weight, in lbs.	...	...	...	...	...	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Last Calved	...	...	...	...	...	21.1 22.5 20.8	17.3 17.0 17.1	15.7 17.3 17.4	21.5 20.3 20.8
Days since Calving	...	...	...	...	...	21.5 21.8 21.3	17.1 17.0 16.2	16.0 17.6 17.7	21.9 20.4 21.5
Weight of Milk, 1st day	...	...	...	...	...	42.6 44.3 42.1	34.4 34.0 33.3	31.7 34.9 35.1	43.4 40.7 42.3
Weight of Milk, 2nd day	...	...	...	...	...	21.3 22.15 21.05	17.2 17.0 16.65	15.85 17.45 17.55	21.7 20.35 21.15
Total	...	...	...	...	...	3.58 4.47 4.24	6.33 5.84 6.93	3.73 3.62 5.56	4.99 4.37 4.60
Average	...	...	...	...	...	0.16 8.77 9.00	9.55 9.88 9.49	9.03 8.76 9.02	9.15 9.16 9.16
Percentage (Fat	...	...	...	...	...	12.74 13.24 13.24	15.88 15.72 16.42	12.76 12.38 14.58	14.13 13.48 13.76
Composition of	...	...	...	...	...	0.768 0.900 0.803	1.089 0.903 1.154	0.591 0.632 0.970	1.583 0.880 0.973
the Milk.	...	...	...	...	...	1.95 1.94 1.89	1.04 1.68 1.58	1.43 1.53 1.58	1.90 1.85 1.94
Actual weight of Fat, in lbs.	...	...	...	...	...	64.50	50.85	50.85	63.20
Points for weight of Milk (lbs.)	...	...	...	...	...	52.92	44.72	43.98	58.00
For weight of Fat (lbs. x 20)	...	...	...	...	...	23.12	19.60	18.16	23.12
For weight of Solids other than Fat (lbs. x 4)	...	...	...	...	...	140.54	135.17	112.09	145.22
Total Points for Milk	...	...	...	...	...	140.54	135.17	112.09	145.22
Deductions	...	...	...	...	...	---	---	---	---
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	140.54	135.17	112.09	145.22
Points for time since Calving	...	...	...	...	...	---	1.5	0.5	---
TOTAL POINTS GAINED	...	...	...	...	...	140.54	136.67	113.49	145.22
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	108.44	83.23	81.64	97.72
Points for time since Calving	...	...	...	...	...	---	1.5	0.5	---
Total Points per 1,000 lbs. live weight	...	...	...	...	...	108.44	84.73	82.14	97.72
Remarks and Awards	...	...	...	...	...	2nd Prize.	3rd Prize.	Highly Commended.	1st Prize.

CLASS 12.—SOUTH DEVON COW (BORN AFTER 1ST AUGUST, 1929, AND PREVIOUS TO 1ST AUGUST, 1931) —Continued.

Number Name	...	...	...	...	...	...	...	171 Ferry Jasmine.	173 Milkmaid 3rd.	174 Milkmaid 5th.
Born	...	...	...	...	...	...	...	Oct. 3, 1929. 1,864 Oct. 2. 20	Oct. 7, 1930. 1,490 Oct. 7. 15	
Live weight, in lbs., Last Calved	...	...	...	...	...	...	...	Morn. Aft. Even. 18.8 20.9 20.1 18.8 20.8 18.6	Morn. Aft. Even. 13.9 13.8 13.8 14.7 14.2 14.2	
Days since Calving	...	...	...	...	...	...	...	20		
Weight of Milk, 1st day	...	...	...	...	...	...	...
Weight of Milk, 2nd day	...	...	...	...	...	...	...
Total	...	...	...	...	...	...	...	37.6 41.7 38.7	28.6 28.0 28.0	
Average	...	...	...	...	...	...	...	18.8 20.85 19.35	14.3 14.0 14.0	
Percentage (Fat	...	...	...	...	...	...	...	4.30 6.19 5.41	6.40 6.65 8.72	
Composition of	...	...	...	...	...	...	...	9.72 9.57 9.35	10.14 10.07 10.16	
the Milk. { Total Solids	...	...	...	...	...	...	...	14.02 15.76 14.76	16.54 16.72 18.88	
Actual weight of	...	...	...	...	...	...	...	0.808 1.291 1.047	0.915 0.981 1.221	
Fat, in lbs.	...	...	...	...	...	...	...	1.83 2.00 1.81	1.45 1.41 1.42	
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	...	...
Points	...	...	...	...	...	...	...
For weight of Milk (lbs.)	...	...	...	...	...	...	...	59.00	42.80	
For weight of Fat (lbs. × 20)	...	...	...	...	...	...	...	92.92	61.34	
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	...	...	22.56	17.12	
Total Points for Milk	...	...	...	...	...	...	...	144.48	120.76	
Deductions	...	...	...	...	...	...	...
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	...	...	144.48	120.76	
Points for time since Calving	...	...	...	...	...	...	...
TOTAL POINTS GAINED	...	...	...	...	...	...	...	144.48	120.76	
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	...	...
Points for time since Calving	...	...	...	...	...	...	...	77.51	81.05	
Total Points per 1,000 lbs. live weight	...	...	...	...	...	...	...	77.51	81.05	
Remarks and Awards	...	...	...	...	...	...	...	2nd Prize.	Reserve.	
	...	...	...	...	...	...	...	3rd Prize.		

CLASS 13.—SOUTH DEVON HELPER, ENTERED IN OR ELIGIBLE FOR THE HERD BOOK. BORN ON OR AFTER 1ST AUGUST, 1931, AND HAVING PRODUCED ONLY ONE CALF.

Number Name	...	...	...	...	...	...	...	...	...	175 Rydon Frisella.	176 Dartington Hall Nervous Airedale.	177 Cholwells Daisy.
Born	...	...	...	...	...	...	...	...	...	Oct. 21, 1931. 1.131	Feb. 12, 1932. 1.232	Aug. 8, 1931. 1.570
Last Calved	...	...	...	...	...	...	...	...	...	Sept. 11. 41	Aug. 29. 54	Apr. 29. 176
Days since Calving	...	...	...	...	...	...	...	...	...	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Weight of Milk, 1st day	...	...	...	...	...	...	...	...	...	10.5 10.2 9.3	15.3 15.6 15.5	14.2 12.5 12.7
Weight of Milk, 2nd day	...	...	...	...	...	...	...	...	...	10.0 9.6 7.7	15.5 15.7 14.6	12.6 12.1 12.7
Total	...	...	...	...	...	...	...	...	...	20.5 19.8 17.0	30.8 31.3 30.1	26.8 24.6 25.4
Average	...	...	...	...	...	...	...	...	...	10.25 9.9 8.5	15.4 15.65 15.05	13.4 12.3 12.7
Percentage (Fat	...	...	...	...	...	...	...	...	...	4.38 6.81 5.99	4.33 5.39 4.88	5.00 5.76 5.90
Composition of Solids other than Fat	...	...	...	...	...	...	...	...	...	9.06 9.27 9.11	9.19 8.83 9.16	9.28 9.34 9.38
the Milk.	...	...	...	...	...	...	...	...	...	13.44 16.08 15.10	13.52 14.22 14.04	14.58 16.30 15.38
Actual weight of Fat, in lbs.	...	...	...	...	...	...	...	...	...	0.440 0.674 0.569	0.667 0.834 0.734	0.570 0.708 0.761
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	...	...	...	...	0.93 0.92 0.77	1.42 1.38 1.38	1.24 1.15 1.19
Points—	...	...	...	...	...	...	...	...	...	28.65	46.10	38.40
For weight of Milk (lbs.)	...	...	...	...	...	...	...	...	...	32.62	44.90	42.78
For weight of Fat (lbs. × 20)	...	...	...	...	...	...	...	...	...	10.48	16.72	14.32
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	...	...	...	...	71.77	107.72	95.50
Total Points for Milk	...	...	...	...	...	...	...	...	...	71.77	107.72	95.50
Deductions	...	...	...	...	...	...	...	...	...	0.1	1.4	12.0
Total Points GAINED FOR MILK	...	...	...	...	...	...	...	...	...	71.67	106.32	83.50
Points for time since Calving	...	...	...	...	...	...	...	...	...	71.87	109.12	107.50
TOTAL POINTS GAINED	...	...	...	...	...	...	...	...	...	71.87	109.12	107.50
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	...	...	...	...	63.46	87.44	60.48
Points for time since Calving	...	...	...	...	...	...	...	...	...	0.1	1.4	12.0
Total Points per 1,000 lbs. live weight	...	...	...	...	...	...	...	...	...	63.56	88.84	72.48
Remarks and Awards	...	...	...	...	...	...	...	...	...	Highly Commended.	2nd Prize.	3rd Prize.

CLASS 13.—SOUTH DEVON HEIFER (BORN ON OR AFTER 1ST AUGUST, 1931)—Continued.

Number Name	...	...	...	...	...	...	...	178 Dartington Juliet.	181 Dartington Dairymaid.
Born	...	...	...	...	...	...	...	Sept. 10, 1931. 1,459 Aug. 2, 81	Nov. 19, 1931. 1,251 Sept. 3, 49
Live weight, in lbs.	...	...	...	...	...	...	...	Morn. Aft. Even.	Morn. Aft. Even.
Last Calved	...	...	...	...	...	...	...	13.8 14.1 16.7	12.2 12.9 12.4
Days since Calving	...	...	...	...	...	...	...	15.5 16.3 15.9	13.0 13.5 12.7
Weight of Milk, 1st day	...	...	...	...	...	...	...	29.3 30.4 32.6	25.2 26.4 25.1
Weight of Milk, 2nd day	...	...	...	...	...	...	...	14.65 15.2 16.3	12.6 13.2 12.55
Total	...	...	...	...	...	...	...	5.01 4.00 5.52	5.77 6.87 5.65
Average	...	...	...	...	...	...	...	9.15 9.54 8.72	8.95 9.03 8.77
Percentage { Fat	...	...	...	...	...	...	...	14.16 13.54 14.26	14.72 15.90 14.42
Composition of { Solids other than Fat	...	...	...	...	...	...	...	0.734 0.608 0.900	0.727 0.907 0.709
the Milk. { Total Solids	...	...	...	...	...	...	...	1.34 1.45 1.42	1.13 1.19 1.10
Actual weight of Fat, in lbs.	...	...	...	...	...	...	...	46.15	38.35
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	...	...	44.84	46.86
Points—	...	...	...	...	...	...	...	10.84	13.68
For weight of Milk (lbs.)	...	...	...	...	...	...	...	107.83	98.89
For weight of Fat (lbs. × 20)	...	...	...	...	...	...	...	—	—
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	...	...	107.83	98.89
Total Points for Milk	...	...	...	...	...	...	...	107.83	98.89
Deductions	...	...	...	...	...	...	...	—	—
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	...	...	107.83	98.89
Points for time since Calving	...	...	...	...	...	...	...	4.1	0.9
TOTAL POINTS GAINED	...	...	...	...	...	...	...	111.93	99.79
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	...	...	79.91	81.66
Points for time since Calving	...	...	...	...	...	...	...	4.1	0.9
Total Points per 1,000 lbs. live weight	...	...	...	...	...	...	...	78.01	82.56
Remarks and Awards	...	...	...	...	...	...	...	1st Prize.	Reserve.

CLASS 14.—DEVON COW, ENTERED IN OR ACCEPTED FOR THE HERD BOOK OR THE SUPPLEMENTARY REGISTER. COWS ENTERED IN THIS CLASS MUST HAVE YIELDED A MINIMUM OF 6,500 LBS. AT FIVE YEARS OLD OR OVER, OR 4,800 LBS. AT UNDER FIVE YEARS OLD EITHER DURING A LACTATION PERIOD OF 45 WEEKS, OR FOR ANY ONE COMPLETED YEAR OF A RECOGNISED MILK RECORDING SOCIETY.

Number Name	182 Woodrow Gentle 2nd.	183 Woodrow Fancy.	184 Corton Conet.	185 Corton Orange.
Born	Mar. 1, 1929.	Dec. 14, 1929.	July 20, 1926.	Jan. 27, 1928.
Live weight, in lbs.	1,459	1,442	1,533	1,550
Last Calved	Aug. 27.	Aug. 9.	Aug. 16.	July 6.
Days since Calving	56	74	67	108
Weight of Milk, 1st day	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Weight of Milk, 2nd day	15.0 13.6 11.4	16.3 15.0 17.6	22.0 21.2 16.5	8.6 9.5 8.0
	12.6 12.6 12.9	17.4 14.9 15.8	24.9 18.2 19.4	8.8 8.8 8.5
Total	27.6 26.2 24.3	33.7 30.8 33.4	46.9 39.4 35.9	17.4 18.3 16.5
Average	13.8 13.1 12.15	16.85 15.4 10.7	23.45 19.7 17.95	8.7 9.15 8.25
Percentage (Fat	5.17 5.26 5.50	5.22 5.34 6.45	5.04 5.64 7.78	0.14 5.05 6.32
Composition of Solids other than Fat	8.91 8.46 8.74	9.36 9.00 8.95	8.82 9.06 10.00	0.36 0.73 8.22
the Milk.	14.08 13.72 14.24	14.58 14.35 15.40	13.86 14.11 17.30	15.86 14.84 15.24
Actual weight of Fat, in lbs.	0.713 0.689 0.608	0.880 0.822 1.077	1.162 1.111 1.397	0.534 0.462 0.521
Actual weight of Solids other than Fat, in lbs.	1.23 1.11 1.00	1.58 1.39 1.49	2.07 1.78 1.80	0.77 0.90 0.74
Points—				
For weight of Milk (lbs.)	39.05	48.05	61.10	26.10
For weight of Fat (lbs. × 20)	14.6	55.58	73.80	30.34
For weight of Solids other than Fat (lbs. × 4)	13.60	17.84	22.60	9.64
Total Points for Milk	94.05	122.37	157.50	66.08
Deductions	10.0	—	—	—
TOTAL POINTS GAINED FOR MILK	84.05	122.37	157.50	66.08
Points for time since Calving	1.6	3.4	2.7	6.8
TOTAL POINTS GAINED	85.65	125.77	160.20	72.88
Points gained for Milk per 1,000 lbs. live weight	57.61	84.86	102.74	42.30
Points for time since Calving	1.0	3.4	2.7	6.8
Total Points per 1,000 lbs. live weight	59.21	88.26	105.44	49.10
Remarks and Awards		2nd Prize.	1st Prize.	

CLASS 15.—RED POLL COW, ENTERED IN OR ACCEPTED FOR THE HERD BOOK. BORN ON OR PREVIOUS TO 1ST AUGUST, 1929. COWS ENTERED IN THIS CLASS MUST HAVE YIELDED A MINIMUM OF 8,000 LBS. AT FIVE YEARS OLD OR OVER, OR 6,000 LBS. AT UNDER FIVE YEARS OLD EITHER DURING A LACTATION PERIOD OF 45 WEEKS OR FOR ANY ONE COMPLETED YEAR OF A RECOGNISED MILK RECORDING SOCIETY.

Number Name	186 Ashmore Witty.	187 Knepp Prudence 7th.	188 Knepp Prudence 11th.	189 Hallingbury Snowdrop.
Born	Jan. 6, 1928. 1,064	May 6, 1926. 1,210	July 2, 1929. 1,375	Feb. 1, 1928. 1,070
Last calving	Oct. 2. 20	Sept. 7. 45	Sept. 13. 39	Aug. 28. 55
Days since Calving	Morn. Aft. Even. 21.8 23.0 22.2 22.7 21.1 20.2	Morn. Aft. Even. 25.7 25.4 26.3 26.0 25.6 23.7	Morn. Aft. Even. 21.3 21.8 10.8 18.9 20.2 23.3	Morn. Aft. Even. 19.5 19.6 17.6 20.4 20.7 19.0
Weight of Milk 1st day	44.5	51.7	40.2	39.9
Weight of Milk, 2nd day	44.1	51.0	42.0	40.3
Total	42.4	50.0	43.1	36.6
Average	22.05	25.85	21.0	19.05
Percentage (Fat	5.33	3.56	3.40	4.11
Composition of Solids other than Fat	9.25	4.25	4.97	5.15
the Milk	9.17	8.63	8.81	8.97
Total Solids	14.58	12.88	13.78	13.08
Actual weight of Fat, in lbs.	1.186	0.920	0.701	0.820
Actual weight of Solids other than Fat, in lbs.	2.06	2.27	1.084	1.088
Points	2.02	2.13	1.79	1.81
For weight of Milk (lbs.)	65.50	76.35	62.65	58.40
For weight of Fat (lbs. × 20)	63.06	61.74	52.78	52.86
For weight of Solids other than Fat (lbs. × 4)	23.80	26.40	21.88	21.04
Total Points for Milk	152.36	164.40	137.31	132.30
Deductions	—	—	—	—
TOTAL POINTS GAINED FOR MILK	152.36	164.40	137.31	132.30
Points for time since Calving	—	0.5	—	1.5
TOTAL POINTS GAINED	152.36	164.99	137.31	133.80
Points gained for Milk per 1,000 lbs. live weight	143.20	135.94	99.86	123.04
Points for time since Calving	—	0.5	—	1.5
Total Points per 1,000 lbs. live weight	143.20	136.44	99.86	125.14
Remarks and Awards	3rd Prize.	1st Prize.	Highly Commended.	Highly Commended.

CLASS 15.—RED POLL COW (BORN ON OR PREVIOUS TO 1ST AUGUST, 1929)—Continued.

Number Name	...	...	...	...	...	...	...	...	...	190 Heveningham Daring.	191 Weston Peggy.	192 Weston Bell.	194 White Hill Fair Flirt.
Born	...	...	...	...	...	...	...	...	...	Dec. 7, 1928. 1,268 Aug. 15. 68	Mar. 17, 1928. 1,218 Aug. 1. 82	Dec. 12, 1927. 1,183 June 23. 121	Aug. 13, 1928. 1,381 May 2. 173
Live weight, in lbs.	...	...	...	...	...	...	...	...	...	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Last Calved	...	...	...	...	...	...	...	...	...	17.0 18.0 17.5	19.8 21.1 20.7	21.7 22.0 20.6	11.0 11.1 10.7
Days since Calving	...	...	...	...	...	...	...	...	...	18.3 18.4 17.0	21.0 19.3 19.0	19.2 20.3 21.0	11.3 11.0 11.5
Weight of Milk, 1st day	...	...	...	...	...	...	...	...	...	35.3 36.4 34.5	40.8 40.4 40.3	40.9 42.3 41.0	22.3 22.1 22.2
Weight of Milk, 2nd day	...	...	...	...	...	...	...	...	...	17.65 18.2 17.25	20.4 20.2 20.15	20.45 21.15 20.8	11.15 11.05 11.1
Total	...	...	...	...	...	...	...	...	...	...	...	...	...
Average	...	...	...	...	...	...	...	...	...	...	...	...	...
Percentage (Fat	...	...	...	...	...	...	...	...	...	3.68 4.83 5.11	4.23 6.08 6.41	3.45 4.84 4.76	3.37 4.59 4.05
Composition of Solids other than Fat	...	...	...	...	...	...	...	...	...	9.00 9.86 9.13	9.13 9.40 9.15	9.01 8.78 8.86	8.50 8.63 8.50
the Milk. (Total Solids	...	...	...	...	...	...	...	...	...	12.08 13.86 14.24	13.30 15.48 15.56	12.46 13.62 13.02	11.87 13.22 12.55
Actual weight of Fat, in lbs.	...	...	...	...	...	...	...	...	...	0.690 0.870 0.881	0.863 1.228 1.292	0.706 1.024 0.990	0.376 0.507 0.450
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	...	...	...	...	1.69 1.64 1.57	1.90 1.84 1.84	1.84 1.86 1.84	0.95 0.95 0.94
Points—	...	...	...	...	...	...	...	...	...	...	...	...	...
For weight of Milk (lbs.)	...	...	...	...	...	...	...	...	...	53.10 48.20 48.20	60.75 67.66 67.66	62.40 64.40 62.40	33.30 36.00 36.00
For weight of Fat (lbs. × 20)	...	...	...	...	...	...	...	...	...	10.20 10.20 10.20	22.46 22.46 22.46	22.46 22.46 22.46	11.36 11.36 11.36
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	...	...	...	...	...	...	...	...
Total Points for Milk	...	...	...	...	...	...	...	...	...	120.50	150.81	138.96	71.32
Deductions	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	...	...	...	...	120.50	150.81	138.96	71.32
Points for time since Calving	...	...	...	...	...	...	...	...	...	2.8	4.2	8.1	12.0
TOTAL POINTS GAINED	...	...	...	...	...	...	...	...	...	123.30	155.01	147.06	83.32
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	...	...	...	...	95.03	123.82	117.46	51.61
Points for time since Calving	...	...	...	...	...	...	...	...	...	2.8	4.2	8.1	12.0
Total Points per 1,000 lbs. live weight	...	...	...	...	...	...	...	...	...	97.83	128.02	125.56	63.61
Remarks and Awards	...	...	...	...	...	...	...	...	...	Highly Commended.	2nd Prize.	Reserve.	...

CLASS 15.—RED POLL COW (BORN ON OR PREVIOUS TO 1ST AUGUST, 1929)—Continued.

Number Name	...	...	...	...	...	...	...	195 White Hill Red Briar.	196 Holton Rainbow 6th.	197 Samford Witchgirl.	198 Kirtou Duplication.
Born	...	...	...	...	...	...	...	Mar. 2, 1929. 1,271 Aug. 31. 52	Aug. 17, 1926. 1,515 Sept. 16. 36	Dec. 10, 1928. 1,076 Sept. 17. 35	Mar. 30, 1929. 1,064 Oct. 7. 15
Live weight, in lbs.	...	...	...	...	...	...	...	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Last Calved	...	...	...	...	...	...	...	22.1 20.4 18.4	22.7 22.6 21.8	22.7 22.6 21.8	19.2 19.5 18.3
Days since Calving	...	...	...	...	...	...	...	21.9 10.5 20.3	21.2 20.1 20.2	22.7 23.9 22.0	20.6 20.2 20.8
Weight of Milk, 1st day	...	...	...	...	...	...	...	44.0 39.9 41.7	41.4 38.5 39.8	45.4 40.5 43.8	39.8 39.7 39.1
Weight of Milk, 2nd day	...	...	...	...	...	...	...	22.0 19.95 20.85	20.7 19.25 19.9	22.7 23.25 21.9	19.9 19.85 19.55
Average	...	...	...	...	...	...	...	3.74 3.72 3.55	5.30 5.32 4.69	5.44 5.55 4.59	4.97 5.44 5.28
Percentage { Fat	...	...	...	...	...	...	...	8.56 8.58 8.65	8.60 8.72 8.57	8.88 8.45 8.85	9.03 9.18 8.72
Composition of { Solids other than Fat	...	...	...	...	...	...	...	12.30 12.30 12.20	13.90 14.04 13.26	14.32 14.00 13.44	14.00 14.62 14.09
the Milk.	...	...	...	...	...	...	...	0.823 0.742 0.740	1.097 1.024 0.933	1.235 1.290 1.005	0.989 1.080 1.032
Actual weight of Fat, in lbs.	...	...	...	...	...	...	...	1.88 1.71 1.80	1.78 1.68 1.71	2.02 1.96 1.94	1.80 1.82 1.70
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	...	...	62.80	59.85	67.85	59.30
Points—	...	...	...	...	...	...	...	46.10	61.08	70.60	62.02
For weight of Milk (lbs.)	...	...	...	...	...	...	...	21.56	20.68	23.68	21.28
For weight of Fat (lbs. × 20)	...	...	...	...	...	...	...
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	...	...
Total Points for Milk	...	...	...	...	...	...	...	130.46	141.61	162.13	142.60
Deductions	...	...	...	...	...	...	...	—	—	10.0	—
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	...	...	130.46	141.61	152.13	142.60
Points for time since Calving	...	...	...	...	...	...	...	1.2	—	—	—
TOTAL POINTS GAINED	...	...	...	...	...	...	...	131.66	141.61	152.13	142.60
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	...	...	102.64	93.47	141.38	135.29
Points for time since Calving	...	...	...	...	...	...	...	1.2	—	—	—
Total Points per 1,000 lbs. live weight	...	...	...	...	...	...	...	103.84	93.47	141.38	135.29
Remarks and Awards	...	...	...	...	...	...	...	Highly Commended.	Highly Commended.	4th Prize.	Highly Commended.

CLASS 16.—RED POLL COW (BORN AFTER 1ST AUGUST, 1929, AND PREVIOUS TO 1ST AUGUST, 1931)—Continued.

CLASS 17.—RED POLL HEIFER, ENTERED IN OR ELIGIBLE FOR THE HERD BOOK. BORN ON OR AFTER 1ST AUGUST, 1931, AND HAVING PRODUCED ONLY ONE CALF.			
Number	210	211	212
Name	Mistley Amethyst.	Lock Earing.	Knepp Cowslip 17th.
Born	Jan. 24, 1931.	Feb. 13, 1932.	Aug. 23, 1931.
Live weight, in lbs.	1,190	752	1,125
Last Calved	Sept. 8.	May 31.	Oct. 3.
Days since Calving	44	144	19
Weight of Milk, 1st day	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Weight of Milk, 2nd day	16.8 16.7 13.8	11.5 10.5 12.2	14.4 14.4 13.9
	17.6 16.6 12.7	10.9 10.5 11.5	13.9 15.2 13.5
Total	34.4 33.3 26.5	22.4 21.0 23.7	28.7 28.7 27.7
Average	17.2 16.65 13.25	11.2 10.5 11.85	14.35 14.35 13.85
Percentage of Fat	3.36 4.85 4.04	3.45 4.43 5.12	4.18 4.62 4.82
Composition of Solids other than Fat	8.70 8.01 8.72	8.95 9.07 8.66	9.12 8.98 8.90
Milk. (Total Solids)	12.06 13.76 12.76	12.40 13.50 13.78	13.30 13.60 13.72
Actual weight of Fat, in lbs.	0.978 1.408 0.535	0.386 0.405 0.607	0.400 0.603 0.668
Actual weight of Solids other than Fat, in lbs.	1.50 1.48 1.16	1.00 0.95 1.03	1.31 1.20 1.23
Points—			
For weight of Milk (lbs.)	47.10	33.55	42.55
For weight of Fat (lbs. × 20)	38.42	29.16	32.36
For weight of Solids other than Fat (lbs. × 4)	16.56	11.92	15.32
Total Points for Milk	102.08	74.63	90.49
Deductions	—	—	—
Total Points GAINED FOR MILK	102.08	74.63	90.49
Points for time since Calving	0.4	10.4	—
TOTAL POINTS GAINED	102.48	85.03	90.49
Points gained for Milk per 1,000 lbs. live weight	85.78	99.24	85.76
Points for time since Calving	0.4	10.4	—
Total Points per 1,000 lbs. live weight	86.18	109.64	85.76
Remarks and Awards	Highly Commended.	Highly Commended.	3rd Prize.
	Highly Commended.	Highly Commended.	4th Prize.

CLASS 17.—RED POLL HEIFER (BORN ON OR AFTER 1ST AUGUST, 1931)—Continued.

Number Name	214 Leaton Mince.	215 Cranlet Spire.	216 Cranlet Strawplait.	217 Wissott Nohow.
Born	Apr. 25, 1932. 1,045	Aug. 30, 1931. 1,110	Dec. 6, 1931. 990	Aug. 8, 1932. 1,172
Live weight, in lbs.	11.4	10.3	10.2	10.9
Last Calved	Aug. 26, 57	Sept. 13, 39	Sept. 24, 28	Sept. 4, 48
Days since Calving	11.7	9.5	13.0	11.0
	11.9	9.4	12.2	10.9
	11.3	10.1	11.9	10.6
Weight of Milk, 1st day	Morn. 11.4	Morn. 10.3	Morn. 10.2	Morn. 10.9
Weight of Milk, 2nd day	Aft. 11.7	Aft. 9.5	Aft. 13.0	Aft. 11.0
	Even. 11.5	Even. 11.2	Even. 11.5	Even. 10.5
	12.2	11.3	11.3	11.3
Total	23.6	21.6	21.5	22.2
Average	23.0	18.9	25.2	21.9
	11.8	10.8	12.6	11.1
	11.4	9.45	11.7	10.55
Percentage { Fat	2.90	3.12	5.12	3.85
Composition of { Solids other than Fat	8.86	9.04	8.98	9.01
the Milk. { Total Solids	11.76	12.16	14.10	12.86
Actual weight of Fat, in lbs.	0.342	0.337	0.550	0.427
Actual weight of Solids other than Fat, in lbs.	1.05	0.98	0.97	1.00
Points—				
For weight of Milk (lbs.)	35.00	30.90	35.05	32.60
For weight of Fat (lbs. × 20)	23.70	20.18	42.54	27.94
For weight of Solids other than Fat (lbs. × 4)	12.56	11.24	12.80	11.96
Total Points for Milk	71.26	62.32	90.39	72.50
Deductions	10.0	—	—	—
TOTAL POINTS GAINED FOR MILK	61.26	62.32	90.39	72.50
Points for time since Calving	1.7	—	—	0.8
TOTAL POINTS GAINED	62.96	62.32	90.39	73.30
Points gained for Milk per 1,000 lbs. live weight	58.62	55.69	94.16	61.86
Points for time since Calving	1.7	—	—	0.8
Total Points per 1,000 lbs. live weight	60.32	55.69	94.16	62.66
Remarks and Awards	...	...	Reserve.	Highly Commended.

CLASS 17.—RED POLL HEIFER (BORN ON OR AFTER 1ST AUGUST, 1931)—Continued.

Number Name	218 Wisscitt Netta.	220 White Hill Monks Flight.	221 Grundisburgh Princess Louise.	222 Yoxford Prime 3rd.
Born	Mar. 30, 1932.	Dec. 12, 1931.	Oct. 9, 1931.	May 24, 1932.
Live weight, in lbs.	982	996	1,146	1,120
Last Calved	Sept. 15.	Sept. 14.	July 18.	Sept. 1.
Days since Calving	37	38	86	51
Weight of Milk, 1st day	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Weight of Milk, 2nd day	8.7 9.6 8.7	15.8 16.8 16.7	11.3 11.0 12.6	10.9 12.4 10.9
	9.6 9.4 9.3	16.5 15.3 15.3	14.0 11.1 11.6	10.3 10.4 10.7
Total	18.3 10.0 18.0	32.3 32.1 32.0	25.8 22.1 24.2	21.2 22.8 21.6
Average	9.15 9.5 9.0	16.15 16.05 16.0	12.9 11.05 12.1	10.6 11.4 10.8
Percentage { Fat Composition of Solids other than Fat	3.10 6.15 4.16	3.53 3.72 3.51	4.77 4.35 4.62	4.02 4.67 4.91
the Milk. { Total Solids	8.88 8.90 8.98	8.97 9.02 8.54	9.19 9.41 9.08	9.34 9.21 8.89
Actual weight of Fat, in lbs.	11.98 15.14 13.14	12.50 12.74 12.05	13.90 13.76 13.70	13.36 13.88 13.80
Actual weight of Solids other than Fat, in lbs.	0.284 0.584 0.374	0.570 0.597 0.562	0.615 0.481 0.559	0.426 0.532 0.530
Points	0.81 0.85 0.81	1.45 1.45 1.37	1.19 1.04 1.10	0.99 1.05 0.96
For weight of Milk (lbs.)	27.65	48.20	38.05	32.80
For weight of Fat (lbs. x 20)	24.84	34.58	33.10	29.76
For weight of Solids other than Fat (lbs. x 4)	9.88	17.08	13.32	12.00
Total Points for Milk	62.37	99.86	82.47	74.56
Deductions	—	—	—	—
Total Points GAINED for Milk	62.37	99.86	82.47	74.56
Points for time since Calving	—	—	5.6	1.1
TOTAL POINTS GAINED	62.37	99.86	88.07	75.66
Points gained for Milk per 1,000 lbs. live weight	63.51	104.46	72.03	69.57
Points for time since Calving	—	—	5.6	1.1
Total Points per 1,000 lbs. live weight	63.51	104.46	77.63	67.67
Remarks and Awards	...	2nd Prize.	Highly Commended.	Highly Commended.

CLASS 21.—AYRSHIRE COW—Continued.

Number Name	239 Killoch Brown Buntie 5th.	240 Greenlees Chernb.	243 Caulthame Moss 2nd.	245 Leaninghead May.
Born	Mar. 26, 1928.	Feb. 9, 1926.	Aug. 12, 1927.	Apr. 4, 1927.
Live weight, in lbs.	1,150	1,384	1,206	1,218
Last Calved	Sept. 11.	Sept. 26.	Sept. 26.	Sept. 25.
Days since Calving	41	26	27	27
Weight of Milk, 1st day	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Weight of Milk, 2nd day	24.7 18.6 20.5	24.7 23.8 26.7	20.7 20.6 23.0	26.2 23.7 27.2
	21.8 23.4 22.0	22.9 26.7 24.1	23.7 23.6 23.0	23.2 26.0 27.2
Total	40.5 42.0 42.5	47.6 50.5 50.8	44.1 44.2 46.0	51.4 51.8 50.9
Average	23.25 21.0 21.25	23.8 25.25 25.4	22.05 22.1 23.0	25.7 25.9 25.45
Percentage Fat	3.17 3.50 3.98	4.40 3.92 3.57	3.45 5.02 4.70	4.07 4.88 5.25
Composition of Solids other than Fat	0.07 0.76 8.78	0.32 8.08 9.23	8.55 8.78 8.89	8.89 8.22 8.50
the Milk, Total Solids	12.24 12.26 12.76	13.72 12.20 12.80	12.00 13.80 13.68	12.06 13.10 13.75
Actual weight of Fat, in lbs.	0.737 0.735 0.846	1.047 0.813 0.907	0.761 1.109 1.102	1.046 1.264 1.336
Actual weight of Solids other than Fat, in lbs.	2.11 1.84 1.87	2.22 2.27 2.34	1.89 1.94 2.04	2.28 2.13 2.16
Points				
For weight of Milk (lbs.)	65.50	74.45	67.15	77.05
For weight of Fat (lbs. × 20)	46.36	55.34	59.44	72.02
For weight of Solids other than Fat (lbs. × 4)	23.28	27.32	23.48	26.28
Total Points for Milk	135.14	157.11	150.07	176.25
Deductions				10.0
Total Points GAINED FOR MILK	135.14	157.11	150.07	166.25
Points for time since Calving	0.1			
TOTAL POINTS GAINED	135.24	157.11	150.07	166.25
Points gained for Milk per 1,000 lbs. live weight	117.51	113.52	124.44	136.40
Points for time since Calving	0.1			
Total Points per 1,000 lbs. live weight	117.61	113.52	124.44	136.40
Remarks and Awards	Highly Commended.	Reserve.	Highly Commended.	4th Prize.

CLASS 21.—AYRSHIRE COW—Continued.

Number	247	248	250	254
Name	Loaninghead Fanny 2nd.	Hunter House Lena.	Birnichknowe Artful.	Ickham Daphne.
Born	Dec. 8, 1920. 1,160 Sept. 23. 29	Nov. 18, 1927. 1,143 Sept. 27. 25	Mar. 15, 1926. 1,120 Sept. 18. 34	July 12, 1927. 1,286 Sept. 18. 34
Live weight, in lbs.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Last Calved	22.8 22.2 23.3	13.3 13.1	27.1 26.9 28.2	23.8 24.0 24.3
Days since Calving	21.7 21.7 23.2	—	29.6 29.4 28.7	23.6 24.8 23.7
Weight of Milk, 1st day	44.5 43.9 40.5	—	56.7 56.3 56.9	47.4 48.8 48.0
Weight of Milk, 2nd day	22.25 21.95 23.25	—	28.35 28.15 28.45	23.7 24.4 24.0
Percentage of Fat	3.59 3.87 4.36	5.11 5.36	2.95 4.33 3.90	3.05 4.03 3.77
Composition of Solids other than Fat	8.87 8.51 8.69	9.51 9.18	9.35 8.85 8.76	9.45 8.81 8.91
the Milk	12.46 12.38 12.96	14.02 14.54	12.30 13.18 12.63	12.50 12.84 12.68
Actual weight of Fat, in lbs.	0.790 0.840 1.014	—	0.836 1.219 1.110	0.723 0.983 0.905
Actual weight of Solids other than Fat, in lbs.	1.97 1.87 2.00	—	2.65 2.49 2.49	2.24 2.15 2.14
Points	67.45 53.24 23.36	—	84.95 63.30 30.52	72.10 52.22 26.12
For weight of Milk (lbs.)	—	—	—	—
For weight of Fat (lbs. \times 20)	—	—	—	—
For weight of Solids other than Fat (lbs. \times 4)	—	—	—	—
Total Points for Milk	144.05	—	178.77	150.44
Deductions	—	—	10.0	—
TOTAL POINTS GAINED FOR MILK	144.05	—	168.77	150.44
Points for time since Calving	—	—	—	—
TOTAL POINTS GAINED	144.05	—	168.77	150.44
Points gained for Milk per 1,000 lbs. live weight	123.22	—	150.69	116.98
Points for time since Calving	—	—	—	—
Total Points per 1,000 lbs. live weight	123.22	—	150.69	116.98
Remarks and Awards	Highly Commended.	III.	3rd Prize.	Highly Commended.

CLASS 21.—AYRSHIRE COW—Continued.

Number Name	...	...	...	...	...	...	...	...	...	255 Ickham Carol.	256 Gerranton Hope 2nd.	257 Hightae Heather Bell 9th.
Born	...	...	...	...	...	...	...	...	...	May 13, 1926. 1,195 Oct. 2. 20	Jan. 12, 1925. 1,128 Sept. 16. 36	Nov. 24, 1927. 1,240 Sept. 9. 43
Live weight, in lbs.	...	...	...	...	...	...	...	...	...	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Last Calved	...	...	...	...	...	...	...	...	...	23.7 24.0 24.5	23.7 24.3 23.7	23.7 24.8 24.1
Days since Calving	...	...	...	...	...	...	...	...	...	24.1 23.9 24.7	23.6 24.5 23.1	22.2 22.5 23.0
Weight of Milk, 1st day	...	...	...	...	...	...	...	...	...	47.8 47.9 49.2	49.2 48.8 46.8	45.9 47.3 47.1
Weight of Milk, 2nd day	...	...	...	...	...	...	...	...	...	23.0 23.05 24.6	24.6 24.4 23.4	22.95 23.65 23.55
Total	...	...	...	...	...	...	...	...	...	4.30 4.70 4.56	3.19 4.04 4.18	2.93 3.69 2.82
Average	...	...	...	...	...	...	...	...	...	9.10 8.82 8.94	9.13 9.12 8.84	8.53 8.45 8.30
Percentage { Fat	...	...	...	...	...	...	...	...	...	13.40 13.52 13.50	12.32 13.16 13.02	11.46 12.14 11.12
Composition of { Solids other than Fat	...	...	...	...	...	...	...	...	...	1.028 1.126 1.122	0.785 0.986 0.978	— — —
the Milk. { Total Solids	...	...	...	...	...	...	...	...	...	2.17 2.11 2.20	2.25 2.23 2.07	— — —
Actual weight of Fat, in lbs.	...	...	...	...	...	...	...	...	...	72.45	72.40	— — —
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	...	...	...	...	43.42	43.48	— — —
Points—	...	...	...	...	...	...	...	...	...	25.92	26.20	— — —
For weight of Milk (lbs.)	...	...	...	...	...	...	...	...	...	163.89	153.58	— — —
For weight of Fat (lbs. × 20)	...	...	...	...	...	...	...	...	...	—	—	— — —
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	...	...	...	...	163.89	153.58	— — —
Total Points for Milk	...	...	...	...	...	...	...	...	...	163.89	153.58	— — —
Deductions	...	...	...	...	...	...	...	...	...	—	—	— — —
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	...	...	...	...	163.89	153.58	— — —
Points for time since Calving	...	...	...	...	...	...	...	...	...	—	—	— — —
TOTAL POINTS GAINED	...	...	...	...	...	...	...	...	...	163.89	153.58	— — —
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	...	...	...	...	137.15	115.65	— — —
Points for time since Calving	...	...	...	...	...	...	...	...	...	—	—	— — —
Total Points per 1,000 lbs. live weight	...	...	...	...	...	...	...	...	...	137.15	115.65	— — —
Remarks and Awards	...	...	...	...	...	...	...	...	...	5th Prize.	Highly Commended.	Disqualified.

Number Name	200 Bargower Queenie fdb.	261 Bargower Miss Donald 7th.	263 Hobstaad Chorus Girl 7th.	264 Barbough Lilac 10th.
Born	Oct. 15, 1931.	Oct. 10, 1931.	Feb. 10, 1932.	Oct. 14, 1931.
Live weight, in lbs.	1,152	1,176	1,087	1,120
Last Calved	Sept. 30.	Sept. 29.	Sept. 25.	Sept. 30.
Days since Calving	22	23	27	22
Weight of Milk, 1st day	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Weight of Milk, 2nd day	17.2 17.7 17.2	20.2 18.5 19.0	15.5 15.2 13.2	13.7 14.2 14.2
	17.9 18.1 16.9	19.4 19.6 17.2	17.1 14.0 14.6	15.7 14.8 15.7
Total	35.1 35.8 34.1	39.6 38.1 36.2	32.6 29.2 27.8	29.4 29.0 29.9
Average	17.55 17.9 17.05	19.8 19.05 18.1	16.3 14.6 13.9	14.7 14.5 14.35
Percentage of Fat	4.85 4.95 3.26	5.37 5.16 4.04	4.20 4.09 3.30	3.30 3.95 3.20
Composition of Solids other than Fat	8.41 8.52 10.09	8.73 8.44 7.02	13.50 13.13 8.94	3.38 3.93 3.18
Actual weight of Fat, in lbs.	13.76 13.92 12.09	14.73 14.33 12.02	13.50 13.13 8.94	12.68 13.98 12.38
Actual weight of Solids other than Fat, in lbs.	0.551 0.886 0.556	1.093 0.983 0.804	0.685 0.685 0.450	0.485 0.573 0.478
Points	1.56 1.61 1.54	1.73 1.74 1.63	1.56 1.38 1.21	1.38 1.35 1.37
For weight of Milk (lbs.)	52.50	56.95	44.80	44.15
For weight of Fat (lbs. × 20)	45.80	58.80	36.58	30.72
For weight of Solids other than Fat (lbs. × 4)	18.84	20.40	16.72	16.40
Total Points for Milk	117.20	136.15	98.10	91.27
Deductions	—	—	—	—
Total Points GAINED FOR MILK	117.20	136.15	98.10	91.27
Points for time since Calving	—	—	—	—
TOTAL POINTS GAINED	117.20	136.15	98.10	91.27
Points gained for Milk per 1,000 lbs. live weight	101.74	115.77	90.25	81.40
Points for time since Calving	—	—	—	—
Total Points per 1,000 lbs. live weight	101.74	115.77	90.25	81.49
Remarks and Awards	5th Prize.	1st Prize.	Highly Commended.	Highly Commended.

CLASS 22.—AYRSHIRE HEIFER (BORN ON OR AFTER 1ST AUGUST, 1931)—Continued.

Number	...	...	...	...	...	...	...	266 Loaninghead Lady Nell.	270 Linnhead Violet 3rd.	271 Linnhead May Queen 3rd.	272 Harleyholm Ivy 7th.
Name	...	...	...	...	...	...	...	...	...	...	...
Born	...	...	...	...	...	...	...	Oct. 9, 1931. 1,109	Nov. 5, 1931. 1,107	Feb. 9, 1932. 1,018	Oct. 9, 1931. 1,059
Live weight, in lbs.	...	...	...	...	...	...	...	Sept. 14. 88	Sept. 13. 39	Sept. 12. 40	Sept. 9. 43
Last Calved	...	...	...	...	...	...	...	...	...	...	...
Days since Calving	...	...	...	...	...	...	...	...	...	...	...
Weight of Milk, 1st day	...	...	...	...	...	...	...	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Weight of Milk, 2nd day	...	...	...	...	...	...	...	15.2 14.9 14.2	14.9 13.0 18.7	19.8 18.7 18.9	14.9 15.0 14.7
	...	...	...	...	...	...	...	15.5 16.0 16.7	13.6 13.6 15.8	19.1 18.5 17.2	14.2 15.3 14.5
Total	...	...	...	...	...	...	...	30.7 30.9 30.9	28.5 36.6 34.5	38.9 37.2 36.1	29.1 30.3 29.2
Average	...	...	...	...	...	...	...	15.35 15.45 15.45	14.25 18.3 17.25	19.45 18.6 18.05	14.55 15.15 14.6
Percentage { Fat	...	...	...	...	...	...	...	3.59 4.29 4.70	3.16 3.45 4.72	4.22 4.90 4.37	3.33 3.94 3.88
Composition of { Solids other than Fat	...	...	...	...	...	...	...	9.43 9.07 9.50	9.40 9.13 8.98	9.08 8.96 8.71	9.65 9.30 9.38
the Milk. { Total Solids	...	...	...	...	...	...	...	13.02 13.36 14.20	12.56 12.58 13.70	13.30 13.86 13.08	12.98 13.24 13.20
Actual weight of Fat, in lbs.	...	...	...	...	...	...	...	0.551 0.663 0.726	0.450 0.631 0.814	0.521 0.911 0.789	0.486 0.597 0.566
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	...	...	1.45 1.40 1.47	1.34 1.67 1.55	1.77 1.67 1.57	1.40 1.41 1.37
Points—	...	...	...	...	...	...	...	46.25	49.80	56.10	44.30
For weight of Milk (lbs.)	...	...	...	...	...	...	...	38.80	37.90	50.42	32.96
For weight of Fat (lbs. × 20)	...	...	...	...	...	...	...	17.28	18.24	20.04	16.72
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	...	...	...	...	...	...
Total Points for Milk	...	...	...	...	...	...	...	102.33	105.94	126.56	93.98
Deductions	...	...	...	...	...	...	...	—	—	—	—
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	...	...	102.33	105.94	126.56	93.98
Points for time since Calving	...	...	...	...	...	...	...	—	—	—	0.3
TOTAL POINTS GAINED	...	...	...	...	...	...	...	102.33	105.94	126.56	94.28
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	...	...	92.27	95.70	124.32	88.74
Points for time since Calving	...	...	...	...	...	...	...	—	—	—	0.3
Total Points per 1,000 lbs. live weight	...	...	...	...	...	...	...	92.27	95.70	124.32	89.04
Remarks and Awards	...	...	...	...	...	...	...	Highly Commended.	Highly Commended.	3rd Prize.	Highly Commended.

CLASS 22.—AYRSHIRE HEIFER (BORN ON OR AFTER 1ST AUGUST, 1931)—Continued.

Number	...	...	...	...	...	275	276	277	279
Name	...	...	...	...	...	Killiflan Parsley.	Ickham Daphne 3rd.	Ickham Fanny 5th.	Cowichan Fleckie.
Born	...	...	...	...	...	Dec. 15, 1931. 1962	Sept. 5, 1931. 1154	Dec. 14, 1931. 894	Feb. 26, 1932. 980
Live weight, in lbs.	...	...	...	...	...	Sept. 12. 40	Sept. 17. 35	Sept. 26. 26	Oct. 5. 17
Last Calved	...	...	...	...	...
Days since Calving	...	...	...	...	...
Weight of Milk, 1st day	...	...	...	...	...	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Weight of Milk, 2nd day	...	...	...	...	...	15.6 12.0 12.3	17.4 17.9 17.7	13.1 17.9 15.4	16.0 15.2 15.6
	...	...	...	...	...	13.1 13.8 13.5	17.6 16.9 17.9	14.8 14.9 15.6	16.0 15.1 15.9
Total	...	...	...	...	...	28.7 25.8 25.8	35.0 34.8 35.6	27.9 32.8 31.0	32.0 30.3 31.5
Average	...	...	...	...	...	14.35 12.9 12.9	17.5 17.4 17.8	13.95 16.4 15.5	16.0 15.15 15.75
Percentage { Fat	...	...	...	...	...	4.27 5.55 5.26	4.36 3.97 4.43	1.73 3.20 3.34	4.41 4.62 5.05
Composition of { Solids other than Fat	...	...	...	...	...	9.59 9.21 9.16	9.36 9.47 9.19	9.11 8.98 8.54	9.91 9.98 9.59
the Milk. { Total Solids	...	...	...	...	...	13.86 14.76 14.42	13.72 13.44 13.62	10.84 12.24 11.88	14.32 14.00 14.64
Actual weight of Fat, in lbs.	...	...	...	...	...	0.613 0.716 0.679	0.763 0.691 0.789	0.241 0.535 0.318	0.706 0.700 0.795
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	1.38 1.19 1.18	1.64 1.65 1.68	1.27 1.47 1.32	1.59 1.51 1.51
Points—	...	...	...	...	...
For weight of Milk (lbs.)	...	...	...	...	...	40.15	52.70	45.85	46.90
For weight of Fat (lbs. \times 20)	...	...	...	...	...	40.16	44.86	25.88	44.02
For weight of Solids other than Fat (lbs. \times 4)	...	...	...	...	...	15.00	19.72	16.24	18.44
Total Points for Milk	...	...	...	...	...	95.31	117.28	87.97	109.36
Deductions	...	...	...	...	...	—	—	10.0	—
Total Points GAINED FOR MILK	...	...	...	...	...	95.31	117.28	77.97	109.36
Points for time since Calving	...	...	...	...	...	—	—	—	—
TOTAL POINTS GAINED	...	...	...	...	...	95.31	117.28	77.97	109.36
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	99.08	101.63	87.21	117.59
Points for time since Calving	...	...	...	...	...	—	—	—	—
Total Points per 1,000 lbs. live weight	...	...	...	...	...	99.08	101.63	87.21	117.59
Remarks and Awards	...	...	...	...	...	Highly Commended.	4th Prize.	Highly Commended.	Highly Commended.

CLASS 23.—(GUERNSEY COW (BORN ON OR PREVIOUS TO 1ST AUGUST, 1920))—Continued.

Number Name	...	...	...	...	...	...	...	...	...	204 Dandy Jess' Pride 6th.	205 Rose of L'Islet.	206 Princess of the Cree.	207 Merton Queen of the Fairies.
Born	...	...	...	...	...	...	...	...	...	Jan. 22, 1920.	June 9, 1920.	June 23, 1927.	Jan. 7, 1926.
Live weight, in lbs.	...	...	...	...	...	...	...	...	...	902	962	908	907
Last Calved	...	...	...	...	...	...	...	...	...	Sept. 13.	Aug. 27.	Aug. 31.	July 14.
Days since Calving	...	...	...	...	...	...	...	...	...	39	56	52	100
Weight of Milk, 1st day	...	...	...	...	...	...	...	...	...	Morn.	Morn.	Morn.	Morn.
Weight of Milk, 2nd day	...	...	...	...	...	...	...	...	...	Aft.	Aft.	Aft.	Aft.
	...	...	...	...	...	...	...	...	...	19.3	23.8	10.4	12.6
	...	...	...	...	...	...	...	...	...	15.6	22.8	17.8	15.1
	...	...	...	...	...	...	...	...	...	15.8	24.8	18.1	15.5
	...	...	...	...	...	...	...	...	...	13.5	21.6	20.0	16.7
Total	...	...	...	...	...	...	...	...	...	35.1	45.7	37.5	28.1
Average	...	...	...	...	...	...	...	...	...	31.2	44.4	37.2	29.9
Percentage (Fat	...	...	...	...	...	...	...	...	...	15.6	22.2	18.6	14.05
Composition of Solids other than Fat	...	...	...	...	...	...	...	...	...	15.5	22.2	18.5	16.3
the Milk.	...	...	...	...	...	...	...	...	...	2.82	4.18	4.80	4.86
Total Solids	...	...	...	...	...	...	...	...	...	3.50	2.25	8.00	8.76
Actual weight of Fat, in lbs.	...	...	...	...	...	...	...	...	...	9.36	9.11	9.21	8.98
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	...	...	...	...	12.86	11.36	13.24	13.04
Points—	...	...	...	...	...	...	...	...	...	0.495	0.532	0.806	0.61
For weight of Milk (lbs.)	...	...	...	...	...	...	...	...	...	0.546	0.599	0.742	0.562
For weight of Fat (lbs. × 20)	...	...	...	...	...	...	...	...	...	1.07	1.07	1.68	1.22
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	...	...	...	...	1.46	1.95	1.71	1.32
Total Points for Milk	...	...	...	...	...	...	...	...	...	48.05	68.70	55.85	45.80
Deductions	...	...	...	...	...	...	...	...	...	37.18	41.72	50.08	39.70
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	...	...	...	...	18.12	24.36	20.20	15.80
Points for time since Calving	...	...	...	...	...	...	...	...	...	103.95	134.78	126.13	100.80
TOTAL POINTS GAINED	...	...	...	...	...	...	...	...	...	10.0	20.0	—	—
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	...	...	...	...	93.95	114.78	126.13	100.80
Points for time since Calving	...	...	...	...	...	...	...	...	...	—	1.6	1.2	6.0
Total Points per 1,000 lbs. live weight	...	...	...	...	...	...	...	...	...	93.95	116.38	127.33	106.80
Remarks and Awards	...	...	...	...	...	...	...	...	...	104.16	119.31	130.80	104.24
	...	...	...	...	...	...	...	...	...	—	1.6	1.2	6.0
	...	...	...	...	...	...	...	...	...	104.16	120.91	131.50	110.24
	...	...	...	...	...	...	...	...	...	Highly Commended.	3rd Prize.	1st Prize.	Highly Commended.

CLASS 25.—GUERNSEY HEIFER, ENTERED IN OR ELIGIBLE FOR THE HERD BOOK, AND WHICH HAS PRODUCED HER FIRST AND ONLY CALF AT OR UNDER THE AGE OF TWO YEARS AND NINE MONTHS.

Number Name	306 Stanstead Princess 7th.	308 Roscy 8th of Rusper.	309 Sequel's May Belle 6th.	310 Dairy Queen 3rd of Clover Top.
Born	Jan. 26, 1932. 872	Mar. 11, 1932. 1,028	Nov. 25, 1931. 979	June 25, 1932. 882
Live weight, in lbs.	Apr. 19, 185	May 22, 153	May 22, 153	Aug. 7, 76
Last Calved	...	...	...	...
Days since Calving	...	...	...	...
Weight of Milk, 1st day	Morn. Aft. Even. 7.3 9.0 8.7	Morn. Aft. Even. 10.4 10.6 11.1	Morn. Aft. Even. 13.1 12.1 13.3	Morn. Aft. Even. 10.0 12.3 14.6
Weight of Milk, 2nd day	8.5 9.4 9.1	11.4 11.1 10.7	12.3 12.8 11.9	14.5 14.0 13.5
Total	15.8 18.4 17.8	21.8 21.7 21.8	25.4 24.9 25.2	30.5 26.3 28.1
Average	7.9 9.2 8.9	10.9 10.85 10.9	12.7 12.45 12.6	15.25 13.15 14.05
Percentage Fat	4.50 4.97 5.45	4.25 4.09 4.31	3.86 3.57 4.31	5.61 3.60 5.00
Composition of Milk.	9.48 9.65 9.07	9.71 9.35 8.89	9.66 9.07 9.35	9.71 9.26 8.96
Solids other than Fat	13.98 14.62 14.52	13.96 13.44 13.20	13.52 13.24 13.66	15.32 12.86 13.96
Total Solids	...	...	...	...
Actual weight of Fat, in lbs.	0.356 0.457 0.485	0.463 0.444 0.470	0.490 0.443 0.543	0.856 0.473 0.703
Actual weight of Solids other than Fat, in lbs.	0.75 0.89 0.81	1.06 1.01 0.97	1.23 1.20 1.18	1.48 1.22 1.26
Points—	...	...	...	...
For weight of Milk (lbs.)	20.00	32.05	37.75	42.45
For weight of Fat (lbs. × 20)	25.96	27.54	29.54	40.04
For weight of Solids other than Fat (lbs. × 4)	9.80	12.16	14.44	15.84
Total Points for Milk Deductions	61.76	72.35	81.73	98.93
TOTAL POINTS GAINED FOR MILK	61.76	72.35	81.73	98.93
Points for time since Calving	12.0	11.3	11.3	9.6
TOTAL POINTS GAINED	73.76	83.65	93.03	102.53
Points gained for Milk per 1,000 lbs. live weight	70.83	70.38	83.48	112.17
Points for time since Calving	12.0	11.3	11.3	3.6
Total Points per 1,000 lbs. live weight	82.83	81.68	94.78	115.77
Remarks and Awards	Highly Commended.	Highly Commended.	Highly Commended.	2nd Prize.

CLASS 25.—GUERNSEY HEIFER—Continued.

Number Name	311 Primrose, Polkmore of Payhay.	312 Valentine's Queen of Payhay.	313 Joanette's Queen of Mapleton.	314 Moss Gay 3rd of Mapleton.
Born	June 13, 1932. 952	Apr. 20, 1932. 896	Jan. 15, 1932. 948	Mar. 29, 1932. 746
Live weight, in lbs.	Sept. 2. 50	June 7. 137	Apr. 15. 189	Aug. 6. 77
Last Calved				
Days since Calving				
Weight of Milk, 1st day	Morn. Aft. Even. 15.7 15.5 10.6	Morn. Aft. Even. 13.3 12.3 12.3	Morn. Aft. Even. 11.9 12.2 11.8	Morn. Aft. Even. 13.8 12.7 13.4
Weight of Milk, 2nd day	15.7 16.3 15.6	12.4 11.6 11.6	11.9 10.7 9.2	12.8 14.2 11.8
Total	31.4 31.8 32.2	25.7 23.9 23.9	23.8 22.9 21.0	26.6 26.9 25.2
Average	15.7 15.9 16.1	12.85 11.95 11.95	11.9 11.45 10.5	13.3 13.45 12.6
Percentage { Fat ...	4.81 3.95 5.85	5.01 5.63 4.90	4.28 5.10 4.06	5.03 4.95 3.74
Composition of { Solids other than Fat ...	9.27 9.51 9.61	9.69 9.29 9.40	9.30 9.30 9.32	9.19 9.23 9.24
the Milk { Total Solids ...	14.08 13.46 15.46	14.70 14.92 14.30	13.58 14.40 13.38	14.22 14.18 12.98
Actual weight of Fat, in lbs.	0.755 0.628 0.942	0.644 0.673 0.586	0.509 0.584 0.426	0.669 0.666 0.471
Actual weight of Solids other than Fat, in lbs.	1.40 1.51 1.55	1.25 1.11 1.12	1.11 1.06 0.98	1.22 1.24 1.16
Pounds { For weight of Milk (lbs.) ...	47.70	36.75	33.85	39.35
For weight of Fat (lbs. x 20)	46.50	38.06	30.38	36.12
For weight of Solids other than Fat (lbs. x 4)	18.08	13.92	12.60	14.48
Total Points for Milk	112.28	88.73	76.83	89.95
Deductions ...	—	—	—	—
Total Points GAINED FOR MILK	112.28	88.73	76.83	89.95
Points for time since Calving	1.0	9.7	12.0	3.7
TOTAL POINTS GAINED	113.28	98.43	88.83	93.65
Points gained for Milk per 1,000 lbs. live weight	117.94	99.03	81.04	120.58
Points for time since Calving	1.0	9.7	12.0	3.7
Total Points per 1,000 lbs. live weight	118.94	108.73	93.04	124.28
Remarks and Awards	1st Prize.	Reserve.	Highly Commended.	Highly Commended.

CLASS 26.—JERSEY COW, ENGLISH OR ISLAND BRED. ENTERED IN OR ACCEPTED FOR THE HERD BOOK. BORN ON OR PREVIOUS TO 1ST AUGUST, 1929. COWS ENTERED IN THIS CLASS MUST HAVE YIELDED A MINIMUM OF 8,000 LBS. AT FIVE YEARS OLD OR OVER, OR 6,000 LBS. AT UNDER FIVE YEARS OLD, EITHER DURING A LACTATION PERIOD OF 45 WEEKS, OR FOR ANY ONE COMPLETED YEAR OF A RECOGNISED MILK RECORDING SOCIETY.

Number Name	...	...	...	...	...	...	...	...	...	320 Playmate of Oaklands.	322 Margawsc.	324 Primrose 2nd.	325 Dalby Regal Meg.
Born	...	...	...	...	...	...	...	...	...	May 17, 1929.	Aug. 2, 1926.	May 9, 1923.	Aug. 2, 1928.
Live weight, in lbs.	...	...	...	...	...	...	...	...	...	902	914	898	910
Last Calved	...	...	...	...	...	...	...	...	...	June 6.	May 23.	June 26.	Aug. 18.
Days since Calving	...	...	...	...	...	...	...	...	...	138	152	118	65
Weight of Milk, 1st day	...	...	...	...	...	...	...	...	...	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Weight of Milk, 2nd day	...	...	...	...	...	...	...	...	...	15.2 14.5 15.0	14.3 12.1 12.5	15.3 16.6 15.8	13.0 14.7 15.6
	...	...	...	...	...	...	...	...	...	15.3 13.5 14.0	12.9 13.3 10.8	13.8 15.0 13.4	16.4 15.6 15.8
Total	...	...	...	...	...	...	...	...	...	30.5 28.0 29.0	27.2 25.4 23.3	30.1 31.6 31.2	31.4 30.3 31.4
Average	...	...	...	...	...	...	...	...	...	15.25 14.0 14.5	13.0 12.7 11.65	15.05 15.8 15.6	15.7 15.15 15.7
Percentage of Fat	...	...	...	...	...	...	...	...	...	4.84 5.17 4.71	6.04 5.87 4.22	5.13 5.61 5.51	4.61 5.84 3.97
Composition of Solids other than Fat	...	...	...	...	...	...	...	...	...	9.46 9.59 9.58	9.12 9.41 9.18	9.21 9.43 9.03	9.03 9.38 9.21
the Milk. { Total Solids	...	...	...	...	...	...	...	...	...	14.30 14.76 14.32	15.16 15.28 13.40	14.34 15.03 14.54	13.64 15.22 13.18
Actual weight of Fat, in lbs.	...	...	...	...	...	...	...	...	...	0.738 0.724 0.687	0.821 0.745 0.482	0.772 0.886 0.860	0.724 0.885 0.623
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	...	...	...	...	1.44 1.34 1.39	1.24 1.20 1.07	1.39 1.46 1.41	1.42 1.42 1.45
Points—	...	...	...	...	...	...	...	...	...	43.75	37.95	46.45	46.55
For weight of Milk (lbs.)	...	...	...	...	...	...	...	...	...	41.16	41.16	50.36	44.64
For weight of Fat (lbs. × 20)	...	...	...	...	...	...	...	...	...	16.68	14.04	17.16	17.16
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	...	...	...	...	103.41	93.15	113.97	108.35
Total Points for Milk	...	...	...	...	...	...	...	...	...	103.41	93.15	113.97	108.35
Deductions	...	...	...	...	...	...	...	...	...	—	—	—	—
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	...	...	...	...	103.41	93.15	113.97	108.35
Points for time since Calving	...	...	...	...	...	...	...	...	...	9.8	11.2	7.8	2.5
TOTAL POINTS GAINED	...	...	...	...	...	...	...	...	...	113.21	104.35	121.77	110.85
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	...	...	...	...	114.65	101.91	126.91	119.07
Points for time since Calving	...	...	...	...	...	...	...	...	...	9.8	11.2	7.8	2.5
Total Points per 1,000 lbs. live weight	...	...	...	...	...	...	...	...	...	124.45	113.11	134.71	121.57
Remarks and Awards	...	...	...	...	...	...	...	...	...	Highly Commended.	Highly Commended.	4th Prize.	Highly Commended.

CLASS 26.—JERSEY COW, ENGLISH OR ISLAND BRED (BORN ON OR PREVIOUS TO 1ST AUGUST, 1929)—Continued.

Number Name	...	...	...	...	...	332 Survillie Campanile.	335 Cowslip 5th.	337 Angus and s Procter 4th.	339 Bolton's May's Sunrise.
Born.	...	...	...	...	...	Dec. 18, 1927. 803	Dec. 22, 1927. 952	Nov. 26, 1928. 870	Nov. 15, 1928. 826
Live weight, in lbs.	...	...	...	...	...	Sept. 4. 48	Apr. 30. 175	Sept. 11. 41	Feb. 13. 252
Last Calved.	...	...	...	...	...	...	...	...	...
Days since Calving	...	...	...	...	...	...	...	...	...
Weight of Milk, 1st day	...	...	...	...	...	Morn. Aft. Even. 15.1 17.9 16.5	Morn. Aft. Even. 16.9 17.6 17.8	Morn. Aft. Even. 15.3 15.2 15.7	Morn. Aft. Even. 15.3 15.2 15.7
Weight of Milk, 2nd day	...	...	...	...	...	17.3 16.8 15.8	16.8 17.5 17.0	17.7 18.2 18.0	14.0 16.8 14.3
Total	...	...	...	...	...	32.4 34.7 32.3	33.7 35.1 34.8	33.5 35.8 35.8	29.3 32.0 30.0
Average	...	...	...	...	...	16.2 17.35 16.15	16.85 17.55 17.4	16.75 17.9 17.9	14.65 16.0 15.0
Percentage Fat	...	...	...	...	...	8.97 4.76 4.30	4.77 4.69 4.60	3.40 3.56 3.21	4.78 4.65 4.14
Composition of Solids other than Fat	...	...	...	...	...	9.53 0.46 0.50	8.87 9.45 9.16	9.42 9.52 9.45	9.40 9.17 9.06
the Milk.	...	...	...	...	...	13.50 14.22 13.80	13.64 14.14 13.76	12.82 13.08 12.66	14.18 13.82 13.20
Total Solids	...	...	...	...	...	0.643 0.826 0.694	0.804 0.823 0.800	0.570 0.637 0.575	0.700 0.744 0.621
Actual weight of Fat, in lbs.	...	...	...	...	...	1.54 1.64 1.53	1.49 1.66 1.59	1.58 1.70 1.69	1.38 1.47 1.36
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	...	...	...	...
Points—	...	...	...	...	...	...	...	...	...
For weight of Milk (lbs.)	...	...	...	...	...	49.70	51.80	52.55	45.65
For weight of Fat (lbs. × 20)	...	...	...	...	...	43.26	48.54	35.64	41.30
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	18.84	18.96	19.88	16.84
Total Points for Milk	...	...	...	...	...	111.80	119.30	108.07	103.79
Deductions	...	...	...	...	...	...	...	...	...
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	111.80	119.30	108.07	103.79
Points for time since Calving	...	...	...	...	...	0.8	12.0	0.1	12.0
TOTAL POINTS GAINED	...	...	...	...	...	112.60	131.30	108.17	115.79
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	125.20	125.32	122.95	125.65
Points for time since Calving	...	...	...	...	...	0.8	12.0	0.1	12.0
Total Points per 1,000 lbs. live weight	...	...	...	...	...	126.00	137.32	123.05	137.65
Remarks and Awards	...	...	...	...	...	Highly Commended.	2nd Prize.	Highly Commended.	Reserve.

CLASS 27.—JERSEY COW, ENGLISH OR ISLAND BRED. ENTERED IN OR ACCEPTED FOR THE HERD BOOK. BORN AFTER 1ST AUGUST, 1929, AND WHICH HAS PRODUCED TWO OR MORE CALVES.

Number Name	340 Primrose Mercedes.	342 Fontaines Royal Princess.	344 Jeanne Du Leeq.	345 Foxbury Valentine 2nd.
Born	Feb. 9, 1930. 958	Jan. 1, 1930. 868	Mar. 10, 1930. 925	June 11, 1931. 874
Live weight, in lbs.	June 8. 136	Aug. 23. 60	Aug. 8. 75	Aug. 14. 69
Last Calved	...	...	...	...
Days since Calving	...	...	...	...
Weight of Milk, 1st day	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Weight of Milk, 2nd day	11.1 10.8 11.3	16.7 18.6 18.3	13.5 13.0 14.6	12.8 16.3 19.8
	10.9 9.8 7.5	16.6 17.6 16.3	14.0 13.6 14.5	11.7 17.5 13.9
Total	22.0 20.6 18.8	33.3 36.2 34.6	27.5 26.6 29.1	24.5 33.8 33.7
Average	11.0 10.3 9.4	16.65 18.1 17.3	13.75 13.3 14.55	12.25 16.9 16.85
Percentage (Fat	5.67 5.59 5.34	5.59 6.04 5.25	4.65 5.18 3.98	3.70 3.16 4.80
Composition of Solids other than Fat	9.55 9.63 9.42	9.53 9.42 9.49	9.31 9.52 9.24	9.47 9.44 9.20
the Milk. (Total Solids	15.22 15.22 14.76	15.12 15.46 14.74	13.96 14.70 13.22	13.26 12.60 14.00
Actual weight of Fat, in lbs.	0.624 0.576 0.502	0.931 1.093 0.908	0.639 0.689 0.579	0.464 0.534 0.809
Actual weight of Solids other than Fat, in lbs.	1.05 0.90 0.89	1.59 1.71 1.64	1.28 1.27 1.34	1.16 1.60 1.55
Points—				
For weight of Milk (lbs.)	30.70	52.05	41.00	46.00
For weight of Fat (lbs. × 20)	34.04	58.64	38.14	36.14
For weight of Solids other than Fat (lbs. × 4)	11.72	19.76	15.56	17.24
Total Points for Milk	76.46	130.45	95.30	99.38
Deductions	...	...	...	...
TOTAL POINTS GAINED FOR MILK	76.46	130.45	95.30	99.38
Points for time since Calving	9.6	2.0	3.5	2.9
TOTAL POINTS GAINED	86.06	132.45	98.80	102.28
Points gained for Milk per 1,000 lbs. live weight	79.81	150.29	103.03	113.71
Points for time since Calving	9.6	2.0	3.5	2.9
Total Points per 1,000 lbs. live weight	89.41	152.29	106.53	116.61
Remarks and Awards	Highly Commended.	1st Prize.	Highly Commended.	Highly Commended.

CLASS 27.—JERSEY COW, ENGLISH OR ISLAND BRED. BORN AFTER 1ST AUGUST, 1929—Continued.

Number Name	346 Memorabilia.	347 Higsteads Berceuse.	351 Wraith.	352 Willing Charity.
	Jan. 19, 1931. 806 Sept. 25. 27	Apr. 12, 1931. 806 Aug. 10. 73	Oct. 4, 1930. 827 Oct. 7. 15	May 11, 1931. 831 Sept. 7. 45
Born	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Live weight, in lbs.	15.9 16.7 17.0	10.6 12.3 11.3	14.9 16.3 16.1	12.3 12.1 11.1
Last Calved	15.9 15.9 16.3	10.4 11.8 11.4	14.7 15.1 15.6	10.7 11.0 10.9
Days since Calving	31.8 32.6 33.3	21.0 24.1 22.7	29.6 31.4 31.7	23.0 23.1 22.0
Weight of Milk, 1st day	15.9 16.3 16.65	10.5 12.05 11.35	14.8 15.7 15.85	11.5 11.55 11.0
Weight of Milk, 2nd day	5.59 5.02 4.54	4.97 4.63 4.90	4.98 5.04 5.06	5.99 6.11 5.77
Total	9.53 9.56 9.14	9.45 8.85 9.04	10.28 10.06 9.74	9.39 9.21 9.25
Average	15.12 14.58 13.68	14.12 13.48 13.94	15.26 15.10 15.40	15.38 15.32 15.02
Percentage { Fat	0.889 0.818 0.756	0.522 0.558 0.556	0.737 0.791 0.897	0.689 0.706 0.635
Composition of { Solids other than Fat	1.52 1.56 1.52	0.96 1.07 1.03	1.52 1.58 1.54	1.08 1.06 1.02
Milk, {	48.85	33.00	46.35	34.05
Actual weight of Solids other than Fat, in lbs.	49.26	32.72	48.50	40.00
Points—	18.40	12.24	18.56	12.64
For weight of Milk (lbs.)	116.51	78.86	113.41	87.29
For weight of Fat (lbs. × 20)	116.51	78.86	113.41	87.29
For weight of Solids other than Fat (lbs. × 4)	116.51	78.86	113.41	87.29
Total Points for Milk	116.51	78.86	113.41	87.29
Deductions	—	—	—	—
TOTAL POINTS GAINED FOR MILK	116.51	78.86	113.41	87.29
Points for time since Calving	—	3.3	—	0.5
TOTAL POINTS GAINED	116.51	82.16	113.41	87.79
Points gained for Milk per 1,000 lbs. live weight	134.54	88.01	137.13	105.04
Points for time since Calving	—	3.3	—	0.5
Total Points per 1,000 lbs. live weight	134.54	91.31	137.13	105.54
Remarks and Awards	Highly Commended.	Highly Commended.	Highly Commended.	Highly Commended.

CLASS 27.—JERSEY COW, ENGLISH OR ISLAND BREED. BORN AFTER 1ST AUGUST, 1929—Continued.

Number	...	...	...	...	...	353 La Valence Omlata.	354 White Hill Happy May.	355 White Hill Happy Deauvilleise.	356 Golden Bossie.
Name	...	...	...	...	...	...	...	...	...
Born	...	...	...	...	...	Feb. 19, 1930. 802	Mar. 21, 1930. 852	Sept. 19, 1929. 862	May 11, 1931. 960
Live weight, in lbs.	...	...	...	...	...	June 27. 117	Sept. 17. 35	Aug. 12. 71	May 24. 151
Last Calved	...	...	...	...	...
Days since Calving	...	...	...	...	...
Weight of Milk, 1st day	...	...	...	...	...	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Weight of Milk 2nd day	...	...	...	...	...	14.8 14.6 15.9	19.4 18.0 18.7	19.6 14.5 15.1	15.9 16.2 15.5
	...	...	...	...	...	16.0 13.8 14.4	20.7 21.6 20.0	15.4 15.5 14.8	15.2 15.5 16.5
Total	...	...	...	...	...	30.8 28.4 30.3	40.1 39.6 38.7	29.0 30.0 30.2	31.1 31.7 32.0
Average	...	...	...	...	...	15.4 14.2 15.15	20.05 19.8 19.35	14.5 15.0 15.1	15.55 15.85 16.0
Percentage of Fat	...	...	...	...	...	4.33 4.07 3.71	4.34 4.79 3.28	4.37 4.48 4.39	4.40 4.40 4.77
Composition of Solids other than Fat	...	...	...	...	...	9.35 9.33 9.25	9.06 9.19 9.30	9.39 9.46 9.29	9.26 9.30 9.21
the Milk.	...	...	...	...	...	13.68 13.40 12.96	13.40 13.98 12.58	13.36 14.12 13.28	13.66 13.70 13.88
Actual weight of Fat, in lbs.	...	...	...	...	...	0.067 0.578 0.562	0.870 0.948 0.635	0.643 0.672 0.663	0.684 0.697 0.763
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	1.44 1.32 1.40	1.82 1.82 1.80	1.39 1.45 1.40	1.44 1.47 1.47
Points—	...	...	...	...	...
For weight of Milk (lbs.)	...	...	...	...	...	44.75	59.20	44.00	47.40
For weight of Fat (lbs. $\times 20$)	...	...	...	...	...	36.14	49.06	39.38	42.88
For weight of Solids other than Fat (lbs. $\times 4$)	...	...	...	...	...	16.64	21.76	16.96	17.52
Total Points for Milk	...	...	...	...	...	97.53	130.02	100.94	107.80
Deductions	...	...	...	...	...	—	—	—	—
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	97.53	130.02	100.94	107.80
Points for time since Calving	...	...	...	...	...	7.7	—	3.1	11.1
TOTAL POINTS GAINED	...	...	...	...	...	105.23	130.02	104.04	118.90
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	121.61	152.61	117.10	112.29
Points for time since Calving	...	...	...	...	...	7.7	—	3.1	11.1
Points for time since Calving	...	...	...	...	...	129.31	152.61	120.20	123.39
Remarks and Awards	...	...	...	...	...	Highly Commended.	2nd Prize.	Highly Commended.	5th Prize.

CLASS 28.—JERSEY HEIFER, ENGLISH OR ISLAND BRED. ENTERED IN OR ELIGIBLE FOR THE HERD BOOK, AND WHICH HAS PRODUCED HER FIRST AND ONLY CALF AT OR UNDER THE AGE OF 2½ YEARS.

Number Name	362 Charlton Abbotts Oxford's Ultra.	363 Charlton Abbotts Oxford's Spots.	366 Edna's Spotlight.	367 Ovaline Lily.
Born	Jan. 7, 1932. 818	Sept. 24, 1932. 713	May 2, 1932. 818	July 10, 1932. 824
Live weight, in lbs.	June 6, 138	Aug. 10, 73	Aug. 20, 54	Oct. 8, 14
Last Calved	...	...	...	...
Days since Calving	...	...	...	...
Weight of Milk, 1st day	Morn. Aft. Even. 15.8 14.8 13.1	Morn. Aft. Even. 12.5 12.2 11.6	Morn. Aft. Even. 15.0 13.8 13.7	Morn. Aft. Even. 9.2 9.6 9.6
Weight of Milk, 2nd day	14.5 12.7 14.5	11.2 9.8 12.6	14.5 12.5 13.0	9.4 10.3 9.8
Total	30.3 27.5 27.6	23.7 22.0 24.2	29.5 26.3 26.7	18.6 19.9 19.4
Average	15.15 13.75 13.8	11.85 11.0 12.1	14.75 13.15 13.35	9.3 9.95 9.7
Percentage (Fat	4.79 4.57 3.88	4.20 5.34 4.39	6.82 6.15 4.68	5.69 5.09 4.80
Composition of { Solids other than Fat	8.87 8.85 9.26	9.28 9.30 9.09	9.80 9.99 9.70	10.09 10.45 9.94
the Milk. { Total Solids	13.66 13.42 13.14	13.48 14.64 13.48	16.62 16.14 14.38	15.78 16.44 14.74
Actual weight of Fat, in lbs.	0.726 0.628 0.635	0.498 0.587 0.531	1.006 0.809 0.625	0.529 0.596 0.466
Actual weight of Solids other than Fat, in lbs.	1.34 1.22 1.23	1.10 1.02 1.10	1.43 1.31 1.29	0.94 1.04 0.96
Points—				
For weight of Milk (lbs.)	42.70	34.95	41.25	28.95
For weight of Fat (lbs. × 20)	37.78	32.32	48.80	21.82
For weight of Solids other than Fat (lbs. × 4)	15.36	12.88	16.20	11.70
Total Points for Milk	95.84	80.15	106.25	72.53
Deductions	...	...	...	...
Total Points GAINED FOR MILK	95.84	80.15	106.25	72.53
Points for time since Calving	9.8	3.3	1.4	—
TOTAL POINTS GAINED	105.64	83.45	107.65	72.53
Points gained for Milk per 1,000 lbs. live weight	117.16	112.41	129.89	88.02
Points for time since Calving	9.8	3.3	1.4	—
Total Points per 1,000 lbs. live weight	126.96	115.71	131.29	88.02
Remarks and Awards	2nd Prize.	Reserve.	1st Prize.	Highly Commended.

CLASS 28.—JERSEY HEIFER, ENGLISH OR ISLAND BRED—Continued.

Number Name	...	...	...	...	...	...	...	...	...	372 Wotton Dewdrop.	373 Golden Gem.
Born	...	...	...	...	...	...	...	...	...	Aug. 23, 1932. 907	July 27, 1932. 760
Live weight, in lbs.	...	...	...	...	...	...	...	...	...	Aug. 30. 53	Sept. 13. 39
Last Calved	...	...	...	...	...	...	...	...	...
Days since Calving	...	...	...	...	...	...	...	...	...
Weight of Milk, 1st day	...	...	...	...	...	...	...	...	...	Morn.	Morn.
Weight of Milk, 2nd day	...	...	...	...	...	...	...	...	...	Aft.	Aft.
	...	...	...	...	...	...	...	...	...	Even.	Even.
	...	...	...	...	...	...	...	...	...	12.3	13.8
	...	...	...	...	...	...	...	...	...	13.8	14.2
	...	...	...	...	...	...	...	...	...	14.0	13.4
	...	...	...	...	...	...	...	...	...	14.0	12.8
Total	...	...	...	...	...	...	...	...	...	26.3	27.2
Average	...	...	...	...	...	...	...	...	...	13.15	13.6
Percentage { Fat	...	...	...	...	...	...	...	...	...	13.15	13.6
Composition { Solids other than Fat	...	...	...	...	...	...	...	...	...	4.42	4.51
the Milk. { Fat	...	...	...	...	...	...	...	...	...	10.08	10.35
Total Solids	...	...	...	...	...	...	...	...	...	10.08	10.35
Actual weight of Fat, in lbs.	...	...	...	...	...	...	...	...	...	14.50	14.86
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	...	...	...	...	0.581	0.613
Points—	...	...	...	...	...	...	...	...	...	1.33	1.41
For weight of Milk (lbs.)	...	...	...	...	...	...	...	...	...	1.33	1.41
For weight of Fat, (lbs. × 20)	...	...	...	...	...	...	...	...	...	40.25	33.88
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	...	...	...	...	16.36	16.36
Total Points for Milk	...	...	...	...	...	...	...	...	...	63.99	90.49
Deductions	...	...	...	...	...	...	...	...	...	—	—
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	...	...	...	...	63.99	90.49
Points for time since Calving	...	...	...	...	...	...	...	...	...	1.3	—
TOTAL POINTS GAINED	...	...	...	...	...	...	...	...	...	65.29	90.49
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	...	...	...	...	70.55	119.07
Points for time since Calving	...	...	...	...	...	...	...	...	...	1.3	—
Total Points per 1,000 lbs. live weight	...	...	...	...	...	...	...	...	...	71.85	119.07
Remarks and Awards	...	...	...	...	...	...	...	...	...	Highly Commended.	3rd Prize.

CLASS 29.—KERRY COW—Continued.

Number Name	...	...	...	...	...	379 Hattingley Elegance.	381 Ard Cacin Dove.	382 Cuckfield Pearl.	383 Buckland Flapper.
Born	...	...	...	...	...	Aug. 19, 1926. 849	May 11, 1922. 1,078	May 20, 1925. 990	Sept. 29, 1927. 854
Live weight, in lbs.	...	...	...	...	...	Sept. 19, 33	Oct. 8, 14	May 22 158	Oct. 6, 16
Last Calved	...	...	...	...	...
Days since Calving	...	...	...	...	...
Weight of Milk, 1st day	...	...	...	...	...	Morn. Aft. Even. 10.2 14.3 14.8	Morn. Aft. Even. 16.3 17.0 15.8	Morn. Aft. Even. 15.0 13.1 13.8	Morn. Aft. Even. 13.9 13.0 13.9
Weight of Milk, 2nd day	...	...	...	...	...	14.6 15.0 14.1	16.4 16.6 16.3	11.6 16.4 12.1	11.6 11.3 10.7
Total	...	...	...	...	...	30.8 29.3 28.9	32.7 33.6 32.1	26.6 29.5 25.9	25.5 24.3 24.6
Average	...	...	...	...	...	15.4 14.65 14.45	16.35 16.8 16.05	13.3 14.75 12.95	12.75 12.15 12.3
Percentage { Fat	...	...	...	...	...	4.87 5.60 4.66	5.65 6.19 4.99	7.10 6.20 5.51	4.69 4.80 5.48
Composition of { Solids other than Fat	...	...	...	...	...	9.13 9.58 9.14	9.51 9.95 9.71	9.50 9.34 8.85	10.05 10.12 9.58
the Milk. { Total Solids	...	...	...	...	...	14.00 15.18 13.80	15.16 16.14 14.70	16.60 15.54 14.36	14.74 14.92 15.06
Actual weight of Fat, in lbs.	...	...	...	...	...	0.750 0.820 0.673	0.924 1.040 0.801	0.944 0.915 0.714	0.508 0.583 0.674
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	1.41 1.40 1.32	1.55 1.67 1.56	1.26 1.38 1.15	1.28 1.23 1.18
Points—	...	...	...	...	...
For weight of Milk (lbs.)	...	...	...	...	...	44.50	49.20	41.00	37.20
For weight of Fat (lbs. x 20)	...	...	...	...	...	44.86	55.30	51.46	37.10
For weight of Solids other than Fat (lbs. x 4)	...	...	...	...	...	16.52	19.12	15.16	14.76
Total Points for Milk	...	...	...	...	...	105.88	123.62	107.62	89.06
Deductions	...	...	...	...	...	—	—	—	—
Total Points GAINED FOR MILK	...	...	...	...	...	105.88	123.62	107.62	89.06
Points for time since Calving	...	...	...	...	...	—	—	11.3	—
TOTAL POINTS GAINED	...	...	...	...	...	105.88	123.62	118.92	89.06
Points gained for Milk per 1,000 lbs. live weight	...	...	...	...	...	124.71	114.68	112.11	104.29
Points for time since Calving	...	...	...	...	...	—	—	11.3	—
Total Points per 1,000 lbs. live weight	...	...	...	...	...	124.71	114.68	123.41	104.29
Remarks and Awards	...	...	...	...	...	Highly Commended.	1st Prize.	2nd Prize.	Highly Commended.

Number Name	384 Cheselbourne Phoebe.	385 Hookland Brunette.	388 Barrington Gipsy.	389 Barrington Tulip 2nd.	
	Oct. 12, 1929. 814 Oct. 4. 18	Aug. 9, 1931. 744 Aug. 10. 73	Apr. 7, 1932. 801 Aug. 20. 63	July 27, 1931. 1,091 June 11. 133	
Born	Morn. 11.5 Aft. 10.8 Even. 11.7	Morn. 11.2 Aft. 9.8 Even. 9.9	Morn. 6.7 Aft. 6.6 Even. 6.7	Morn. 9.2 Aft. 9.2 Even. 9.1	Exon. 9.1
Live weight, in lbs.	11.3	10.6	6.8	9.1	8.9
Last Calved	22.8	21.8	13.7	18.3	18.0
Days since Calving	11.4	10.9	6.85	9.15	9.0
Weight of Milk, 1st day	5.06	4.58	3.14	4.16	4.86
Weight of Milk, 2nd day	9.30	9.20	9.34	9.14	8.84
Total	14.36	13.78	12.48	13.80	13.20
Average	0.677	0.499	0.215	0.381	0.457
Percentage of Fat	1.06	1.00	0.64	0.84	0.83
Composition of Solids other than Fat	33.35	29.85	19.25	27.55	27.55
the Milk.	36.24	28.84	15.24	24.44	24.44
Actual weight of Fat, in lbs.	12.52	10.80	7.20	9.88	9.88
Actual weight of Solids other than Fat, in lbs.	82.11	69.49	41.69	61.87	61.87
Points—	82.11	69.49	41.69	61.87	61.87
For weight of Milk (lbs.)	—	3.3	2.3	9.3	9.3
For weight of Fat (lbs. × 20)	82.11	72.79	48.99	71.17	71.17
For weight of Solids other than Fat (lbs. × 4)	100.87	93.40	52.05	59.43	59.43
Total Points for Milk	100.87	90.70	54.35	68.73	68.73
Total Points per 1,000 lbs. live weight	100.87	90.70	54.35	68.73	68.73
Remarks and Awards	Highly Commended.	1st Prize.		2nd Prize.	

TOTAL POINTS GAINED

Points gained for Milk per 1,000 lbs. live weight
Points for time since Calving
Total Points per 1,000 lbs. live weight

CLASS 31.—DEXTER COW, ENTERED IN OR ACCEPTED FOR THE HERD BOOK. COWS ENTERED IN THIS CLASS MUST HAVE YIELDED A MINIMUM OF 5,000 LBS. AT FIVE YEARS OLD OR OVER, OR 3,750 LBS. AT UNDER FIVE YEARS OLD, EITHER DURING A LACTATION PERIOD OF 45 WEEKS OR FOR ANY ONE COMPLETED YEAR OF A RECOGNISED MILK RECORDING SOCIETY.

Number Name	390 Grinstead Nightingale 3rd.	391 Grinstead Hawk 5th.	392 Ashtonhayes Mary.	393 Ashtonhayes Patricia.
Born	Dec. 19, 1925. 737	June 12, 1928. 668	Jan. 30, 1926. 871	June 12, 1929. 755
Live weight, in lbs.	May 18. 157	July 24. 90	Apr. 23. 181	Sept. 8. 44
Last Calved	...	...	...	...
Days since Calving	...	...	...	...
Weight of Milk, 1st day	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.	Morn. Aft. Even.
Weight of Milk, 2nd day	12.6 12.1 11.3	14.7 11.9 14.1	7.6 7.6 7.8	12.4 13.2 12.9
	13.4 11.9 11.2	13.8 12.6 11.6	7.8 7.7 7.3	12.2 13.7 11.7
Total	26.0 24.0 22.5	28.5 25.5 25.7	15.4 15.3 15.1	24.6 26.9 24.6
Average	13.0 12.0 11.25	14.25 12.75 12.85	7.7 7.65 7.55	12.3 13.45 12.3
Percentage { Fat	5.48 5.13 4.22	4.76 5.33 5.43	5.32 6.40 5.93	4.14 4.73 4.99
Composition of { Solids other than Fat	9.38 8.89 8.92	9.34 8.93 9.17	9.58 9.50 9.27	9.34 9.33 9.31
the Milk. { Total Solids	14.86 14.02 13.14	14.10 14.26 14.60	14.90 15.90 15.20	13.48 14.06 14.30
Actual weight of Fat, in lbs.	0.712 0.616 0.475	0.678 0.680 0.698	0.410 0.490 0.448	0.509 0.636 0.614
Actual weight of Solids other than Fat, in lbs.	1.22 1.07 1.00	1.33 1.14 1.18	0.74 0.73 0.70	1.15 1.25 1.15
Points—				
For weight of Milk (lbs.)	36.25	49.85	22.90	38.05
For weight of Fat (lbs. × 20)	36.06	41.12	26.96	35.18
For weight of Solids other than Fat (lbs. × 4)	13.16	14.60	8.68	14.20
Total Points for Milk	85.47	95.57	58.54	87.43
Deductions	...	...	...	...
TOTAL POINTS GAINED FOR MILK	85.47	95.57	58.54	87.43
Points for time since Calving	11.7	5.0	12.0	0.4
TOTAL POINTS GAINED	97.17	100.57	70.54	87.83
Points gained for Milk per 1,000 lbs. live weight	115.97	143.07	67.21	115.80
Points for time since Calving	11.7	5.0	12.0	0.4
Total Points per 1,000 lbs. live weight	127.67	148.07	79.21	116.20
Remarks and Awards	2nd Prize.	1st Prize.	Reserve.	3rd Prize.

THE "ROBERT MOND" CHALLENGE SHIELD AWARDS

By J. MACINTOSH, O.B.E., N.D.A., N.D.D.

This trophy was presented by Mr. Robert Mond to the British Dairy Farmers' Association in 1919, with the object of encouraging breeders of dairy stock to judge bulls more by the production of their daughters than by the appearance of the bulls themselves.

At the same time a special prize of £10 was also presented by Mr. Mond for two cows or heifers, the progeny of one bull, exhibited at the Dairy Show and gaining the largest number of points above the standard of the classes in which they were exhibited. The entry of two animals for this special prize was taken as equivalent to an entry for the Challenge Shield, but in order to qualify for the latter the two daughters exhibited at the Dairy Show and two additional daughters must have given at least 5,500 lbs. milk containing not less than 3.5 per cent. fat in their first lactation period, or at least 6,500 lbs. milk containing not less than 3.5 per cent. fat in their second or later lactation periods, each lactation period not to exceed 365 days and each competing animal to be in calf within five months of the commencement of the lactation period. The Challenge Shield is then awarded to the group of four daughters complying with these conditions and producing the highest yield of butter-fat.

The special prize of £10 has been won at practically all the Dairy Shows since 1920, but the Challenge Shield has been won on only six occasions. It is probable that entries were restricted for a few years by the fact that the Prize and Shield were open only to Dairy Short-horns, but since 1922 these trophies have been open to all breeds, and in some respects the qualifying conditions have been made less stringent. Full details are published each year in the schedule of prizes issued before the Show and in the catalogues issued at the Show.

Details are given below of the winning entries in 1925-26, 1928-29, 1930-31, 1931-32, 1932-33 and 1933-34.

The winner in 1925-26 was Major C. R. Dudgeon, Cargen Holm, Dumfries, with the progeny of the Ayrshire bull "Thornhill Mount Royal" (19147). The yields of the four daughters of this bull were as follows :—

Daughters.	Milk Yield.	Fat Percentage.	Fat Yield.
	lb.	%	lb.
Cargen Holm Proud Lady 10th	10,193	4.11	415.2
Cargen Holm Sally 6th ...	11,693	3.83	447.8
Cargen Holm Proud Lady 8th	9,721	4.05	393.7
Cargen Holm Daisy Bell 2nd	8,566	4.23	362.3
Total fat yield			1,619.0

The reserve in 1925-26 was Mr. E. A. Smith, Longhills, Lincoln, with the progeny of the Dairy Shorthorn bull, " Babraham Lord Price " (140574). The total yield of fat of the four daughters of this bull was 1,126.0 lb.

In 1928-29 the winner was Mr. Grosvenor Berry with the progeny of the Jersey bull, " Nimrod " (14890). The yields of the four daughters of this bull were as follows :—

Daughters.	Milk Yield.	Fat Percentage.	Fat Yield.
	lb.	%	lb.
Post Girl 2nd	7,542½	4.17	314.52
Nimrod's Primrose	5,786	5.76	333.27
Water Dinah	9,117¼	3.64	331.87
Nimrod's Taranto 2nd ...	8,285¼	3.86	319.81
Total fat yield			1,299.47

The winner in 1930-31 was Mr. G. Wills, Rydon, Ogwell, Newton Abbot, with the progeny of the South Devon bull, " Flete Forester 7th " (11444). The yields of the four daughters of this bull were as follows :—

Daughters.	Milk Yield.	Fat Percentage.	Fat Yield.
	lb.	%	lb.
Primula 5th (33706)	8,508½	3.99	339.19
Milkmaid (33702)	7,938½	4.54	360.41
Snowdrop 6th (33707)	7,871½	4.11	323.52
Pink 12th (33703)	6,163¼	4.19	258.24
Total fat yield			1,281.66

The reserve in 1930-31 was Mr. A. Weightman, Middle Herrington, Sunderland, with the progeny of the British Friesian bull, "Wychnor Jan" (P.I.) (24645). The total yield of fat of the four daughters of this bull was 1,086.64 lbs.

In 1931-32 four entries were received but only in one of these were all the conditions complied with. The winner was Mr. J. Cochrane, Byreholm, Thornhill, Dumfries-shire, with the progeny of the Ayrshire bull, "Netherton Prosperity" (26488). The yields of the four daughters of this bull were as follows :—

Daughters.	Milk Yield.	Fat Percentage.	Fat Yield.
	lb.	%	lb.
Byreholm Jubilee 2nd (23744)	11,640	4.40	512.16
Byreholm Julia 2nd (23747)	9,410	3.72	350.05
Byreholm Jujube (23746) ...	8,760	4.25	372.30
Byreholm Juno (23749) ...	5,630	4.45	250.53
Total fat yield			1,485.04

In 1932-33 there were seven entries, but unfortunately six of these failed to comply fully with the conditions, owing to delayed calvings or other occurrences.

The winner was found to be Mr. G. Wills, Rydon, Ogwell, Newton Abbot, with the progeny of the South Devon bull, "Flete Forester 7th" (11444). Mr. Wills had also won the Shield in 1930-31, with a group of progeny by the same bull. The yields of the four daughters were as follows :—

Daughters.	Milk Yield.	Fat Percentage.	Fat Yield.
	lb.	%	lb.
Starlight 11th (34377) ...	8,999	4.21	378.86
Pink 12th (33703)	6,519 $\frac{1}{4}$	3.97	252.32
Lavender 3rd (34372) ...	6,631 $\frac{1}{2}$	4.27	283.16
Snowdrop 6th (33707) ...	9,250 $\frac{1}{2}$	4.45	411.65
Total fat yield 1,325.99			

In 1933-34 there were again seven entries :—two from Dairy Shorthorn herds, two from British Friesian herds, two from South Devon herds and one from a Guernsey herd. Unfortunately, through a variety of causes such as failure of the animals sent to the Dairy Show to attain the class standard in points, failure to calve again within 425 days or sale of an animal, six out of the seven entries failed to comply with the conditions of the competition. The remaining entrant, Mr. George Wills, Rydon, Ogwell, Newton Abbot complied with all the conditions and therefore holds the Shield for the current year.

The sire of the four animals is the South Devon bull, Wychbrook Champion (10995). Mr. Wills was the winner in 1932-33 and also in 1930-31 with another bull, "Flete Forester 7th" (11444) and deserves congratulations on his continued success.

The yields of the four daughters in 1932-33 were as follows :—

Daughters.	Milk Yield.	Fat Percentage.	Fat Yield.
	lb.	%	lb.
Hawthorn 8th (14069) ...	7,741 $\frac{1}{4}$	4.35	336.74
Hawthorn 9th (15073) ...	8,096 $\frac{1}{4}$	3.94	318.99
Starlight 14th (15116) ...	9,575 $\frac{1}{4}$	4.32	413.65
Milkmaid 3rd (14072) ...	6,509	4.44	288.99
Total fat yield 1,358.37			

During the past year greater attention has been given by owners, Breed Societies and Milk Recording Societies to the discovery and use of bulls whose breeding value has been proved by the performances of their progeny. The Ministry of Agriculture has issued a scheme optional to members of Milk Recording Societies, designed to facilitate the discovery of bulls of proved merit and as a result of these activities the Council trust that a still larger number of entries for the "Robert Mond" Challenge shield will be received next year.

THE MILKING TRIALS FOR GOATS, 1934

By THOS. W. PALMER.

The entries in these classes were somewhat disappointing, moreover there were several absentees, consequently competition was to some extent restricted. No new records were established. The outstanding feature, and one which attracted much attention whilst the Show was in progress, was the entry of "Bordeaux Marlene" *Q*Q*, a goat which had established for the year ending 1st October, 1934, a world's record for recorded milk yield. During the 365 days, she gave 5,306 lbs. 1 oz. It is interesting to note this goat kidded on 21st June, 1933, when she was 14½ months old, had been in milk 487 days at the date of the Show, and weighed 145 lbs., so gave during the recorded year 36 times her own body weight in milk.

Class 41. She Goats, First Kidders.—Nine entries, four absent. (1933—Twelve entries, four absent). Mrs. McVay's "Bordeaux Marlene" *Q*Q* was first with a yield of 11.3 lbs., butter fat 4.59 per cent. and 4.72 per cent., lactation points 5.4; total points 31.24. This goat was also awarded the Holmes Pegler Jubilee Trophy. Second prize went to Mr. J. R. Egerton's "Malpas Merilees" Q*Q*, whose yield was 7.35 lbs., butter fat 6.95 per cent. and 7.4 per cent., lactation points 3.6; total points 24.30. She also obtained the Pomeroy Cup for the Anglo-Nubian goat obtaining the highest points in the Milking Competitions. Miss Mostyn Owen's "Mostyn Matchless" Q*Q** was Third, yield 9.85 lbs., butter fat 3.96 per cent and 4.40 per cent., lactation points 2.6; total points 23.98. Mrs. Morcom's "Cornish Saint" * took the Fourth prize offered by the British Goat Society, yield 9.75 lbs., butter fat 3.35 per cent. and 4.25 per cent., lactation points 1.5; total points 22.11. Miss Booth's "Springfield Lorelei" Q*Q* was Reserve, yield 7.20 lbs., butter fat 4.91 per cent. and 6.95 per cent., lactation points 2.8; total points 20.94. This goat was awarded the Saanen Cup for the Saanen goat obtaining the highest number of points. It will be observed the first prize winner stood well away from the other First Kidders, but only .32 separated the second and third prize winners.

Class 42. She Goats not eligible for Class 41. Twelve entries, four absent. (1933, Twenty-one entries, seven absent). The first prize was awarded to Mrs. Morcom's "Cornish Saccharine"

Q*Q*Q* with a yield of 13.65 lbs. (the highest in the Show), butter fat 3.99 per cent. and 4.39 per cent., lactation points 2.5; total points 32.09. This goat was also awarded the Tremedda Selene Cup and Dewar Trophy. Mr. A. A. Plimpton's "Wells Pinkpearl" *Q*Q* was second, yield 12.85 lbs., butter fat 5.36 per cent. and 5.37 per cent., lactation points 0.9; total points 31.98. In addition to the prize, the goat secured the Baroness Burdett Coutts Cup and the Dual Purpose Challenge Certificate. She was also reserve for the Tremedda Selene Cup and the Dewar Trophy. Miss Booth's "Didgemere Salome" Q*Q**Q* was third with a yield of 12.5 lbs., butter fat 4.14 per cent. and 4.33 per cent., lactation points 3.6; total points 30.65. She was reserve for the following:—Holmes Pegler Jubilee Trophy, Baroness Burdett Coutts Cup, Dual Purpose Challenge Certificate, and with her stable companion, "Springfield Loveday," reserve for the Dewar Cup. The fourth prize, offered by the British Goat Society, was awarded to Mrs. Morcom's "Cornish Renown" **Q*, yield 9.75 lbs., butter fat 3.31 per cent. and 4.19 per cent., lactation points 5.4; total points 25.77. This goat was awarded the Chamberlain Cup for the British Saanen obtaining the highest number of points, and with her stable companion, "Cornish Praline," the Dewar Cup. Miss Gibbon's "Thundersley Solveig" * was reserve, yield 10.45 lbs., butter fat 3.57 per cent. and 4.26 per cent., lactation points 3.1; total points 25.36. "Cornish Refrain" Q** owned by Mrs. Morcom, was Highly Commended with a total of 23.11 points. The first three goats in this class competed keenly against one another, only .11 separated the first two when the points were totalled, and the third was behind the first by 1.44.

Three goats which competed at the 1933 Show again entered, and two which secured prizes at that Show, also obtained further prizes at the 1934 exhibition.

Class 43. She Goats, Toggenburg. Eight entries for Inspection, three for Milking, one absent. Neither of the two competing obtained a prize, but "Serinda of Weald" Q* with a yield of 9.10 lbs. and total points of 22.00 was awarded the Straker Cup for the Toggenburg goat obtaining the highest number of points, the reserve going to "Murrayston Clyde" ** with a yield of 9.35 lbs., and total points 21.37.

Class 44. She Goats, British Alpine.—Five entries for Inspection, one for Milking, but this goat did not appear at the Show.

Class 45. She Goats, Saanen.—Five entries for Inspection, two for Milking. In Class 41 Miss Booth's "Springfield Lorelei" Q*Q* was reserve with a total of 20.94 and was awarded the Saanen Cup (to compete for this Cup the goat must be bred by the exhibitor).

In class 42 Miss Booth's "Didgemere Salome" Q*Q**Q* was third with a yield of 12.5 lbs. and a total of 30.65. She was reserve for numerous trophies.

Class 46. She Goats, British Saanen.—Five entries for Inspection, four for Milking. In Class 41, Miss Mostyn Owen's "Mostyn Matchless" Q*Q** was third with a yield of 9.85; total points 23.98. The other three goats competed in Class 42. Mr. A. A. Plimpton's "Wells Pinkpearl" *Q*Q* secured second prize with a yield of 12.85 lbs.; total points 31.98. She also secured the Baroness Burdett Coutts Cup and the Dual Purpose Challenge Certificate. Mrs. Morcom's "Cornish Renown" **Q* won fourth prize with a yield of 9.75 lbs.; total points 25.77, also the Chamberlain Cup and the Dewar Cup." Miss Gibbon's "Thundersley Solveig" ** was reserve with a yield of 10.45; total points 25.36. She was reserve for the Chamberlain Cup.

Class 47. She Goats, Anglo-Nubian.—Eight entries for Inspection, two for Milking, one absentee. Mr. Egerton's "Malpas Merilees" Q*Q* entered in Class 41 secured second prize and the Pomeroy Cup with a yield of 7.35 lbs.; total points 24.30.

Class 48. She Goats, British Toggenburg.—Six entered for Inspection, two for Milking, both in Class 41. Mrs. McVay's "Bordeaux Marlene" *Q*Q* won first prize and the Holmes Pegler Jubilee Trophy with a yield of 11.3 lbs.; total points 31.24, and Mrs. Morcom's "Cornish Saint" * fourth prize with a yield of 9.75 lbs.; total points 22.11.

Class 49. She Goats, Any Other Variety.—Eight entries for Inspection, seven for Milking, five of which were absent. Both animals competed in Class 42. Mrs. Morcom's "Cornish Saccharine" Q*Q*Q*Q* was first with a yield of 13.65 lbs., total points 32.09, and also secured the Tremedda Selene Cup and the Dewar Trophy. Mrs. Morcom's "Cornish Refrain" Q** was Highly Commended with a yield of 9 lbs. and total points 23.11. One goat entered for Milking failed to compete owing to delay on the journey from home, but was in its place for Inspection.

No goat lost points through deficiency of butter fat.

Tabulated Statements follow —

TABLE I.

Class.	Description.	Number in Class.		Average Live Weight.	Average Yield of Milk.	Highest Yield.	Lowest Yield.	Average period of Lactation.	Average Fat.	Average Solid not Fat.	Number of Animals below Standard for Fat.		Average points Gained.
		Entered.	Com- peting.								a.m.	p.m.	
43	Toggenburg	3	2	lbs. 152	lbs. 9.22	lbs. 9.35	lbs. 9.10	days. 165	4.01	8.18	—	—	21.68
44	British Alpine	1	—	—	—	—	—	—	—	—	—	—	—
45	Saanen	2	2	162	9.85	12.50	7.20	234	5.08	8.24	—	—	25.79
46	British Saanen	4	4	180	10.72	12.85	9.75	271	4.30	8.60	—	—	26.77
47	Anglo-Nubian	2	1	200	7.35	7.35	7.35	200	7.20	9.36	—	—	24.30
48	British Toggenburg	2	2	157	10.52	11.30	9.75	311	4.22	8.88	—	—	26.67
49	Any Other Variety	7	2	184	11.32	13.65	9.00	208	4.20	8.61	—	—	27.60

TABLE II.

Description of Class.	Year of Show.	Number of Animals Competing.	Average live weight of each Animal.	Average period of Lactation.	Average weight of Milk.		Average weight of Milk per day.	Highest Yield.	Lowest Yield.	Percentages.		
										Fat.		Solids.
					a.m.	p.m.				a.m.	p.m.	
Star of Q Star Milkers	1926	7	168	180	5.08	4.88	9.96	12.3	7.15	4.38	4.63	a.m. 8.53 p.m. 8.64
"	1928	9	180	218	5.03	4.73	9.76	12.65	6.05	4.68	4.43	a.m. 8.66 p.m. 8.79
Other than First Kidders	1929	10	169	219	4.64	4.53	9.17	11.65	6.45	4.36	4.66	a.m. 8.70 p.m. 8.63
"	1930	9	178	197	4.62	4.45	9.07	12.70	6.35	4.04	4.63	a.m. 8.75 p.m. 8.51
"	1931	14	158	194	4.20	3.97	8.17	14.30	3.90	4.97	4.91	a.m. 8.36 p.m. 8.60
"	1932	12	181	249	5.67	5.32	10.99	16.00	7.00	3.96	4.11	a.m. 8.50 p.m. 8.47
"	1933	14	182	268	5.18	5.04	10.22	14.10	6.95	4.57	4.36	a.m. 8.27 p.m. 8.73
"	1934	8	172	236	5.58	5.24	10.83	13.65	9.10	4.00	4.47	a.m. 8.47 p.m. 8.41
Not eligible as Star Milkers	1926	6	136	150	4.36	4.09	8.45	11.6	6.35	3.87	4.60	a.m. 8.60 p.m. 8.72
"	1928	3	118	204	3.58	3.48	7.06	8.35	5.9	4.34	3.80	a.m. 8.62 p.m. 8.58
First Kidders	1929	13	157	199	4.62	4.30	8.92	14.70	5.45	4.26	4.67	a.m. 8.82 p.m. 8.84
"	1930	6	164	196	4.65	4.35	9.00	11.60	8.25	4.45	4.43	a.m. 8.53 p.m. 8.43
"	1931	14	163	200	4.28	4.06	8.34	14.45	5.70	4.43	4.73	a.m. 8.30 p.m. 8.58
"	1932	13	171	243	4.64	4.28	8.92	11.70	4.10	3.82	4.31	a.m. 9.04 p.m. 8.68
"	1933	8	157	208	5.12	4.80	9.92	12.05	7.15	4.20	3.88	a.m. 8.17 p.m. 8.66
"	1934	5	170	257	4.63	4.46	9.09	11.30	7.20	4.75	5.55	a.m. 8.76 p.m. 8.86

CLASS 41.—SHE GOATS (First Kidders).

Number Name	407 Springfield Lorelei.	413 Moscow Matchless.	419 Malpas Merless.	426 Bordeaux Marlene.	429 Cornish Saint.
Born	Feb. 27, 1932. 186	Mar. 20, 1932. 181	Feb. 16, 1932. 200	Apr. 9, 1932. 145	Mar. 18, 1932. 169
Live weight, in lbs.	Mar. 25. 210	Apr. 6. 198	Feb. 4. 259	June 21, 1933. 187	June 8. 136
Last Kid	...	...	...	...	...
Days since Kidling	...	...	...	...	...
Weight of Milk, 1st day	Morn. Even. 4.1 3.7	Morn. Even. 5.2 4.5	Morn. Even. 3.5 3.7	Morn. Even. 6.0 5.2	Morn. Even. 5.0 4.8
Weight of Milk, 2nd day	3.4 3.2	4.9 5.1	3.6 3.9	5.6 5.8	5.0 4.7
Total	7.5 6.9	10.1 9.6	7.1 7.6	11.6 11.0	10.0 9.5
Average	3.75 3.45	5.05 4.8	3.55 3.8	5.8 5.5	5.0 4.75
Percentage (Fat	4.91 6.95	3.96 4.40	6.95 7.45	4.59 4.72	3.35 4.25
Composition of	8.46 8.05	8.48 8.34	9.27 9.45	8.79 8.98	8.85 8.91
the Milk.	13.36 15.60	12.44 12.74	16.22 16.60	13.88 13.70	12.20 13.16
Actual weight of	0.184 0.240	0.200 0.211	0.247 0.283	0.266 0.260	0.168 0.202
Actual weight of Solids other than Fat, in lbs.	0.317 0.298	0.428 0.400	0.329 0.359	0.510 0.494	0.443 0.423
Points—					
For weight of Milk (lbs.)	7.20	9.85	7.35	11.30	9.75
For weight of Fat (lbs. \times 20)	8.48	8.22	10.60	10.52	7.40
For weight of Solids other than Fat (lbs. \times 4)	2.46	3.31	2.75	4.02	3.46
Total Points for Milk	18.14	21.38	20.70	25.84	20.61
Deductions	...	...	...	...	...
Total Points GAINED FOR MILK	18.14	21.38	20.70	25.84	20.61
Points for time since Kidling	2.8	2.6	3.6	5.7	1.5
TOTAL POINTS GAINED	20.94	23.98	24.30	31.54	22.11
Remarks and Awards	Reserve.	3rd Prize.	2nd Prize.	1st Prize.	4th Prize.

CLASS 42.—SHE GOATS (NOT ELIGIBLE FOR CLASS 41)—Continued.

Number Name	...	...	...	...	...	416 Cornish Renown.	436 Cornish Refrain.	437 Cornish Saccharine.
Born	...	...	...	...	...	Feb. 2, 1929. 194	Jan. 22, 1931. Mar. 10, 225	Feb. 22, 1931. 162 Apr. 13, 191
Live weight, in lbs.	...	...	...	...	...	Morn. Even. 5.6 4.7 4.7 4.5	Morn. Even. 4.7 4.3 4.5 4.5	Morn. Even. 7.6 6.6 6.7 6.4
Last Kid	...	...	...	...	...	...	...	...
Days since Kidding	...	...	...	...	...	...	...	...
Weight of Milk, 1st day	...	...	...	...	...	...	...	...
Weight of Milk, 2nd day	...	...	...	...	...	...	...	...
Total	...	...	...	...	...	10.3 9.2	9.2 8.8	14.3 13.0
Average	...	...	...	...	...	5.15 4.6	4.6 4.4	7.15 6.5
Percentage (Fat	...	...	...	...	...	3.31 4.19	3.83 4.97	3.99 4.39
Composition of Solids other than Fat	...	...	...	...	...	8.59 8.67	8.69 9.15	8.43 8.19
Milk. Total Solids	...	...	...	...	...	11.90 12.86	12.52 14.12	12.32 12.58
Actual weight of Fat, in lbs.	...	...	...	...	...	0.170 0.193	0.176 0.219	0.235 0.285
Actual weight of Solids other than Fat, in lbs.	...	...	...	...	...	0.442 0.399	0.400 0.403	0.603 0.532
Points—	...	...	...	...	...	...	...	...
For weight of Milk (lbs.)	...	...	...	...	...	9.75	9.00	13.65
For weight of Fat (lbs. × 20)	...	...	...	...	...	7.26	7.90	11.40
For weight of Solids other than Fat (lbs. × 4)	...	...	...	...	...	3.36	3.21	4.54
Total Points for Milk	...	...	...	...	...	20.37	20.11	29.59
Deductions	...	...	...	...	...	—	—	—
TOTAL POINTS GAINED FOR MILK	...	...	...	...	...	20.37	20.11	29.59
Points for time since Kidding	...	...	...	...	...	5.4	3.0	2.5
TOTAL POINTS GAINED	...	...	...	...	...	25.77	23.11	32.09
Remarks and Awards	...	...	...	...	...	4th Prize.	Highly Commended.	1st Prize.

THE DAIRY SHOW BUTTER TESTS, 1934

By R. H. EVANS, B.Sc.

The 1934 Butter Tests were carried out on similar lines to those of the previous year. The animals competing were, on the whole, well up to the average standard obtaining at the London Dairy Show. The total entries for the Butter Tests were 265, of which 165 animals were tested.

The following table shows the number of cattle which reached the standard points in each breed :—

Breed.	No. tested.	No. that reached Breed standard.	Percentage of those competing.
Pedigree Shorthorns	16	6	38%
Non-pedigree Shorthorns	6	4	66%
Lincoln Reds	3	1	33%
British Friesians	16	12	75%
South Devons	12	9	75%
Red Polls	26	9	35%
Ayrshires	30	28	93%
Guernseys	16	16	100%
Jerseys	25	25	100%
Devons	4	2	50%
Welsh Blackst†	3	—	—
Kerries	5	5	100%
Dexters	3	2	66%
	165	119	72%

From the above table it will be seen that 72% of the cattle tested obtained the standard points. This figure compares very favourably with that of the previous two years—66% in 1933, and 61% in 1932.

The British Friesians, South Devons, Ayrshires, Guernseys, Jerseys and Kerries put up excellent performances.

The total milk yielded by the 165 animals tested amounted to 9,160 lbs.—an average of 55.5 lbs. per cow—an increase of 3.7 lbs. on the 1933 figure.

The total butter churned amounted to 329,690 lbs., an average of 1.998 lbs. per cow—a slight increase on the 1933 figure of 1.91 lbs. per cow.

The awards in the Butter Tests were in accordance with the following scale of points :—

One point for every ounce of butter, one point for every completed ten days since calving (calculated to the first day of the Show),

deducting the first 40 days. Maximum allowances for period of lactation, 12 points. Fractions of ounces of butter and incomplete periods of less than 10 days to be worked out in decimals and added to the total points. In the case of cows obtaining the same number of points, the prize to be awarded to the cow that has been longest time in milk.

A certificate giving the last day of calving (which had to be before 9 a.m. on October 8th) to reach the Secretary by Saturday the 13th October.

No prize to be awarded to animals in the Butter Tests which do not come up to the following standard :—

Breed.	Heifers. Points.	Cows under 5 years. Points.	Cows, 5 years and over. Points.
Shorthorns, Pedigree	22.7	28.3	34
Shorthorn, Non-pedigree	22.7	28.3	34
Lincoln Reds	22.7	28.3	34
British Friesians	22.7	28.3	34
South Devons †	22.7	28.3	34
Devons	22.0	25.0	30
Red Polls	22.7	28.3	34
Blue Albions	22.7	28.3	34
Welsh Blacks	20.0	25.0	30
Ayrshires	22.7	28.3	34
Guernseys	20.0	25.0	30
Jerseys	23.3	29.2	35
Kerries	19.3	24.2	29
Dexters	19.3	24.2	29

Certificates of Merit and Highly Commended Cards were given to animals, other than prizewinners, that reached the above standard. The following were the number of entries and the actual number tested at the 1934 Dairy Show :—

Breed.	No. entered.	No. tested.
Shorthorns, Pedigree	30	16
Shorthorns, Non-pedigree	11	6
Lincoln Reds	9	3
British Friesians	38	16
South Devons	16	12
Red Polls	30	26
Ayrshires	52	30
Guernseys	20	16
Jerseys	40	25
Devons	4	4
Welsh Blacks	6	3
Kerries	6	5
Dexters	3	3
	285	165

SHORTHORNS.

A—Pedigree.

Sixteen Pedigree Shorthorns were tested.

Messrs. Chivers & Sons, Ltd.'s "Duchess of Histon 8th" (126841) obtained the second award in the Shorthorn classes, with a milk yield of 56.4 lbs. from which 2 lbs. 8½ ozs. butter was churned, giving a butter ratio of 1 : 22.29. This cow was also awarded the Shorthorn Butter Cup.

The third award went to J. O. Fane's "Steventon Grace" (117948). This cow yielded 67.5 lbs. milk, from which 2 lbs. 8½ ozs. butter was obtained, the butter ratio being 1 : 26.68.

The fourth prize was awarded to E. Uwins Gillate's cow "Orfold Fancy 13th" (51713), with a milk yield of 71.5 lbs., a butter yield of 2 lbs. 8½ ozs., the butter ratio being 1 : 28.26. This cow was the reserve for the Shorthorn Butter Cup.

B—Non-Pedigree.

B. P. Stockley's cow "Fanny" (D.S.A.R., Vol. 17) was the reserve in the Shorthorn classes. This animal yielded 87.9 lbs. of milk, and 2 lbs. 8¼ ozs. butter—the butter ratio being 1 : 34.95.

C—Lincoln Reds.

F. Sainsbury's cow "Bendish Poppy 9th" (Vol. 32, p. 500) with a milk yield of 50.7 lbs. from which 1 lb. 15¼ ozs. butter was obtained, giving a butter ratio of 1 : 25.93, was awarded the first prize in the Shorthorn classes.

BRITISH FRIESIANs.

The first prize in this class was awarded to T. G. Fairhead's "Covenbrook Lively 2nd" (103154). Her milk yield was 95.2 lbs., from which 3 lbs. 0¾ ozs. butter was obtained. This cow had been 137 days in milk. Her butter ratio was 1 : 31.27.

The second prize was awarded to C. Ball's "Oakham Dainty" (119594). She yielded 91.7 lbs. milk from which 3 lbs. 8½ oz. butter was obtained, giving a butter ratio of 1 : 25.87.

The third prize cow was J. & B. M. Dale's "Felhampton Groundsel" (81628). This animal yielded 77.2 lbs. milk with 3 lbs. 3 ozs. butter, her butter ratio being 1 : 24.20.

Messrs. Strutt & Parker (Farms), Ltd's "Lavenham Chancery 3rd" (95606) was the reserve in this class.

SOUTH DEVONS.

The premier award went to Miss J. Smith's "Crocus" (34960). Her milk yield was 63 lbs. from which 3 lbs. 13½ ozs. butter was obtained, her butter ratio being 1 : 16.45—an excellent performance.

The second prize was awarded to the Dartington Hall, Ltd.'s "Manor Dora" (32580), her milk and butter yields being 67.2 lbs. and 2 lbs. 8 ozs. respectively. The butter ratio was 1 : 26.88.

The third prize went to J. Rossiter's "Graceful" (34312), with a milk yield of 64.1 lbs., a butter yield of 2 lbs. 8¾ ozs., and a butter ratio of 1 : 25.19.

Dartington Hall, Ltd.'s "Engelbourne Daisy 7th" (32594) was awarded the fourth prize with milk and butter yields of 60 lbs. and 2 lbs. 7¾ ozs. respectively, and a butter ratio of 1 : 24.15.

G. Wills' "Milkmaid 3rd" (35142) was the reserve in this class.

RED POLLS.

S. Paul's "Samford Witch Girl" (42204) took the first prize in this class with a milk yield of 67.1 lbs. and a butter yield of 3 lbs., giving a butter ratio of 1 : 22.37.

The second prize went to C. H. Cearn's "Weston Bell" (40581). This cow's milk and butter yields amounted to 64.3 lbs. and 2 lbs. 6¾ ozs. respectively. Her butter ratio was 1 : 26.3.

Mr. Cearn's "Weston Peggy" (42498) was third, with a milk yield of 61.6 lbs. from which 2 lbs. 0¾ ozs. butter was obtained, her butter ratio being 1 : 30.12.

The fourth award went to "Knepp Prudence 7th" (37852), a cow belonging to Lt.-Col. Sir Merrik R. Burrell, Bart., C.B.E. This cow yielded 77.4 lbs. milk from which 2 lbs. 1½ ozs. butter was obtained.

The reserve in this class was Mrs. R. M. Foot's cow "White Hill Charming Delight" (46418).

AYRSHIRES.

The Ayrshires proved an excellent class as usual. All the animals competing, with two exceptions, reached the standard points for the breed.

Capt. W. B. Dronsfield's "Urioch Brockie 2nd" (21355) obtained the premier award in this class with a milk yield of 87.4 lbs., a butter yield of 3 lbs. 4¼ ozs. and a butter ratio of 1 : 26.77.

The second prize was awarded to J. Turner's "Loaninghead May" (27611). This cow gave 75.1 lbs. milk and 3 lbs. $3\frac{3}{4}$ ozs. butter, her butter ratio being 1 : 23.21.

"Ickham Carol" (10632), a cow belonging to R. Sillars & Son, gained the third prize in this class with milk and butter yields of 72.2 lbs. and 3 lbs. 2 ozs. respectively, showing a butter ratio of 1 : 23.14.

A. W. Montgomerie's "Cauldhame Moss 2nd" (21253), with a milk yield of 64 lbs., a butter yield of 3 lbs. $0\frac{1}{2}$ oz. and a butter ratio of 1 : 21.12, was awarded the fourth prize.

The reserve in this class was J. N. Drummond's "Bargower Silver Bell 5th" (97396).

GUERNSEYS.

C. Holmes' "Dairy Maid of Riduna" (34448) was the first prize winner in this class. Her total milk yield was 45.7 lbs. from which 2 lbs. $3\frac{1}{2}$ ozs. butter was obtained. Her butter ratio being 1 : 20.59.

The second prize cow was R. O. Hambro's "Imperial Countess" (31706). Her milk yield amounted to 51.9 lbs., her butter yield to 2 lbs. $5\frac{3}{4}$ ozs. and her butter ratio 1 : 22.13.

E. D. Fairweather's "Rex's Primrose of Maison de Bas" (40601) was awarded the third prize, with milk and butter yields of 49.5 lbs. and 1 lb. $13\frac{1}{2}$ ozs. respectively. This cow's butter ratio was 1 : 27.05.

W. G. Trower's "Stanstead Rose 60th" (30573) obtained the fourth prize with a milk yield of 38.3 lbs., a butter yield of 2 lbs. $7\frac{1}{4}$ ozs., and a butter ratio of 1 : 15.60.

Capt. H. J. Pilbrow's cow "Charlotte of Sous les Hougues" (35890) was the reserve in this class.

JERSEYS.

The first prize in this class was awarded to J. W. McCallum's "Sonata" (8561). This cow yielded 60.4 lbs. milk and 3 lbs. $3\frac{1}{4}$ ozs. butter, her butter ration being 1 : 18.85. This cow also won the National Butter Cup.

The second prize went to S. S. Lockwood's "Cowslip 5th" (10666), with milk and butter yields respectively of 52.3 lbs. and 2 lbs. 8 ozs. This cow's butter ratio was 1 : 20.92.

H. C. Pelly's "Primrose 2nd" (2449), with a milk yield of 47.7 lbs., a butter yield of 2 lbs. 10½ ozs., and a butter ratio of 1 : 18.0, won the third prize. This cow was also reserve for the National Butter Cup.

"Lady Brenda" (11126), a cow belonging to E. A. Strauss, J.P., M.P., was the fourth in this class, with a total milk yield of 48.7 lbs., a butter yield of 2 lbs. 10 ozs. and a butter ratio of 1 : 18.59.

The reserve in the Jersey classes was H. C. Pelly's "Fontaine's Royal Princess" (15211).

DEVONS.

A. J. P. Baker's cow "Woodrow Fancy" (41989), with a milk yield of 49.8 lbs., a butter yield of 2 lbs. 3½ ozs. and a butter ratio of 1 : 22.43 obtained the prize of £3 offered in this class.

The reserve cow was H. G. Mayo's "Corton Comet" (43491). This cow yielded 59.7 lbs. milk, from which 2 lbs. 1¾ ozs. butter was obtained.

WELSH BLACKS.

All the three animals tested failed to reach the standard points for the breed.

KERRIES.

All the five animals tested in this class reached the standard points. The prize of £3 was awarded to H. E. Mitchell's "Cuckfield Pearl" (4082), with milk and butter yields respectively of 41.9 lbs. and 2 lbs. 2¼ ozs. This cow's butter ratio was 1 : 19.63. This animal had been 153 days in milk.

"Ard Caein Dove" (3331), belonging to the same owner, was second. This cow yielded 49.1 lbs. milk, from which was obtained 2 lbs. 12½ ozs. butter, her butter ratio being 1 : 17.66.

J. W. Towler's "Ard Caein Rose," with a total milk yield of 51 lbs., a butter yield of 2 lbs. 6¼ ozs. and a butter ratio of 1 : 21.38, was the reserve in this class.

DEXTERS.

The prize of £3 offered in this class was awarded to Lady Loder's "Grinstead Nightingale 3rd" (3626), yielding 36 lbs. milk, from which 1 lbs. 6¾ ozs. butter was churned. This cow's butter ratio was 1 : 25.44.

The reserve in this class was Lady Loder's "Grinstead Hawk 5th" (4108).

TROPHIES AND CUPS.

	Winner	Reserve
	No.	No.
The B.D.F.A. Supreme Championship	132	238
Morrison Trophy	173	—
Spencer Cup	132	238
National Butter Cup	331	324
Shorthorn Butter Cup	21	14
South Devon Herd Book Cup ...	160	169
Busk Cup (Devons)	184	183
Thornton (Red Poll) Cup	197	191
Rowallan Cup	238	245
Stagenhoe (Guernsey) Cup	302	293
Blythwood Production Bowl ...	331	335
Nutt (Dexter) Cup	390	391
£25 Shorthorn Prize	82	80
£100 Friesian Prize	132	—

The following table gives the average results for all breeds competing :—

Year.	Total No. of Cows.	Average weight of 24 hours' Milk.	Average Yield of Butter.	Average Butter Ratio.	Average No. of Points.
1920... ..	111	lbs. 39	lbs. ozs. 1 9½	24.21	28.25
1921... ..	173	39½	1 6½	25.35	27.68
1922... ..	187	42½	1 8½	27.99	26.31
1923... ..	143	41½	1 11½	24.03	32.23
1924... ..	148	43½	1 12½	24.21	32.55
1925... ..	154	46½	1 13½	25.59	32.61
1926... ..	149	49½	1 15½	26.69	34.68
1928... ..	133	49½	1 14½	27.00	33.93
1929... ..	130	52½	1 13½	28.69	32.48
1930... ..	147	50½	1 13½	28.47	30.12
1931... ..	140	57½	2 0	28.74	34.43
1932... ..	159	56½	1 15½	29.40	32.93
1933... ..	138	51.8	1 91	27.15	32.91
1934... ..	165	55.5	2 0	27.78	34.58

The average weight of the animals entered for the Butter Tests were :—

	lbs.		lbs.		lbs.		lbs.
Shorthorns ...	1,346	S. Devons ...	1,520	Welsh Blacks	1,231	Jerseys ...	901
Lincoln Reds	1,417	Devons ...	1,498	Ayrshires ...	1,166	Kerries ...	889
British Friesians	1,408	Red Polls ...	1,128	Guernseys ...	1,014	Dexters ...	758

TABLE I.—NUMBER OF CATTLE TESTED SINCE 1901.

Breed.	1901 to 1910	1911	1912	1913	1914	1915	1919	1920	1921	1922	1923	1924	1925	1926	1928	1929	1930	1931	1932	1933	1934
Shorthorns	210	26	30	26	20	20	24	30	63	39	34	18	15	23	20	27	21	26	24	18	22
Lincoln Reds	32	6	6	5	4	2	4	4	7	7	9	8	10	4	4	4	8	8	5	4	3
British Friesians	—	—	—	—	1	2	2	15	10	24	13	23	19	25	19	16	19	16	30	19	16
South Devons	23	2	4	2	6	3	—	—	5	5	3	—	3	1	7	9	12	9	19	14	12
Devons	—	—	—	—	—	—	5	2	6	7	5	3	8	1	2	1	2	—	4	—	4
Red Polls	62	1	1	—	—	1	11	12	17	23	13	17	6	17	17	18	23	22	10	16	26
Blue Albions	—	—	—	—	—	—	—	—	—	—	—	4	5	4	—	2	1	1	—	—	—
Welsh Blacks	—	—	—	—	—	—	—	—	—	4	—	—	2	1	—	—	—	—	—	4	3
Ayrshires	13	—	4	—	—	—	—	—	2	20	16	15	31	26	25	18	21	21	22	12	30
Guernseys	30	1	2	6	5	7	16	14	19	15	10	16	18	14	10	10	12	20	12	20	16
Jerseys	187	18	7	18	9	10	22	21	24	27	25	32	24	25	22	22	22	18	27	24	25
Kerries	9	1	—	5	—	—	4	8	17	13	7	10	7	5	2	4	1	4	1	—	5
Dexters	8	—	—	—	—	—	6	5	3	3	8	2	3	3	5	4	5	5	5	7	3
TOTALS	574	55	54	62	45	45	94	111	173	187	143	148	151	149	133	130	147	140	159	138	165

TABLE II.—NUMBER OF CATTLE OF THE VARIOUS BREEDS TESTED SINCE 1924, WITH THEIR AVERAGE PERIOD OF LACTATION, WEIGHT OF BUTTER, BUTTER RATIOS AND POINTS.

Year.	No.	Breed.	Average No. of Days in Milk.	Average Weight of Butter.	Average Butter Ratio.	Average No. of Points.
				lbs. ozs.	lbs.	
1925 ...	15	Shorthorns	40	1 11 $\frac{3}{4}$	27.60	28.46
1926 ...	23	"	43	1 13 $\frac{3}{4}$	27.05	31.01
1928 ...	20	"	60	1 4 $\frac{1}{4}$	34.12	28.13
1929 ...	27	"	51	1 9	31.62	26.79
1930 ...	21	"	50	1 9	31.98	26.86
1931 ...	26	"	53	1 14	33.92	31.73
1932 ...	24	"	38	1 14 $\frac{1}{2}$	35.13	31.13
1933 ...	18	"	42	1 14	30.34	31.84
1934 ...	22	"	47	1 9	36.78	29.89
1925 ...	10	Lincoln Reds	39	1 1 $\frac{1}{2}$	27.27	34.27
1926 ...	4	"	31	2 8 $\frac{1}{2}$	22.57	40.76
1928 ...	4	"	33	2 2	29.76	34.06
1929 ...	4	"	33 $\frac{1}{2}$	2 3 $\frac{1}{2}$	28.39	35.30
1930 ...	8	"	60 $\frac{1}{2}$	2 0 $\frac{1}{2}$	31.60	35.01
1931 ...	8	"	28	2 1 $\frac{1}{2}$	31.00	33.59
1932 ...	5	"	30	1 10	36.65	26.10
1933 ...	4	"	57	1 11 $\frac{1}{2}$	32.82	30.40
1934 ...	3	"	80	1 10 $\frac{1}{2}$	26.78	30.50
1925 ...	19	British Friesians... ..	45	1 15	32.36	32.50
1926 ...	25	"	52	2 4 $\frac{1}{2}$	28.97	38.13
1928 ...	19	"	52	1 14	33.45	31.74
1929 ...	16	"	31 $\frac{1}{2}$	1 15 $\frac{1}{2}$	37.78	31.37
1930 ...	19	"	64 $\frac{1}{2}$	1 14	32.65	32.18
1931 ...	16	"	34	2 3	34.00	35.15
1932 ...	30	"	23	1 15 $\frac{1}{2}$	35.48	32.02
1933 ...	19	"	28	2 5 $\frac{1}{2}$	30.17	37.74
1934 ...	16	"	42	2 5	33.36	38.92
1925 ...	2	South Devons	111	2 8 $\frac{1}{2}$	17.80	46.25
1926 ...	1	"	88	3 2 $\frac{1}{2}$	21.63	55.30
1928 ...	2	"	54	2 3 $\frac{1}{2}$	25.67	37.40
1929 ...	3	"	95	2 6 $\frac{1}{2}$	26.65	44.03
1930 ...	6	"	47 $\frac{1}{2}$	2 3	26.68	35.54
1931 ...	9	"	54	2 3	25.70	37.10
1932 ...	19	"	65	1 13 $\frac{1}{2}$	27.26	32.57
1933 ...	14	"	34	1 14	26.40	30.10
1934 ...	12	"	39	2 2 $\frac{1}{2}$	26.20	35.02
1925 ...	1	Dairy South Devon	124	2 4 $\frac{1}{2}$	18.90	44.90
1928 ...	5	"	116	2 8 $\frac{1}{2}$	19.41	47.78
1929 ...	6	"	93	2 3 $\frac{1}{2}$	26.75	40.75
1930 ...	6	"	54	2 1 $\frac{1}{2}$	27.15	37.39
1925 ...	8	Devons	51	1 13 $\frac{1}{2}$	24.40	30.78
1926 ...	1	"	41	2 3 $\frac{1}{2}$	21.85	35.85
1928 ...	2	"	213	1 2	22.55	30.00
1929 ...	1	"	39	1 9	39.60	25.00
1930 ...	2	"	30	1 0 $\frac{1}{2}$	34.32	23.35
1932 ...	4	"	103	1 5	27.31	27.12
1934 ...	4	"	76	1 11 $\frac{1}{2}$	25.19	31.50
1925 ...	6	Red Polls	63	1 11 $\frac{1}{2}$	28.70	30.20
1926 ...	17	"	60	1 11	27.13	29.47
1928 ...	17	"	67	1 13 $\frac{1}{2}$	28.24	32.21
1929 ...	13	"	43	1 9	31.72	26.01
1930 ...	23	"	52 $\frac{1}{2}$	1 10 $\frac{1}{2}$	33.25	38.73
1931 ...	12	"	50	1 15 $\frac{1}{2}$	30.04	32.82
1932 ...	10	"	56	1 12 $\frac{1}{2}$	32.64	30.77
1933 ...	16	"	73	1 10	31.53	28.75
1934 ...	26	"	58	1 9	32.84	27.33

TABLE II.—NUMBER OF CATTLE OF THE VARIOUS BREEDS TESTED SINCE 1924, WITH THEIR AVERAGE PERIOD OF LACTATION, WEIGHT OF BUTTER, BUTTER RATIOS AND POINTS—*Continued.*

Year.	No.	Breed.	Average No. of Days in Milk.	Average Weight of Butter.	Average Butter Ratio.	Average No. of Points.
				lbs. ozs.	lbs.	
1925 ...	5	Blue Albions ...	35	2 0 $\frac{1}{2}$	28.70	33.11
1926 ...	4	" ...	50	1 14 $\frac{1}{2}$	31.16	32.16
1929 ...	2	" ...	31	1 13 $\frac{1}{2}$	31.64	29.25
1930 ...	1	" ...	58	2 8 $\frac{1}{2}$	22.90	40.50
1931 ...	1	" ...	26	1 10	30.10	26.00
1925 ...	2	Welsh Blacks ...	42	1 15 $\frac{1}{2}$	21.60	31.62
1926 ...	1	" ...	43	1 10 $\frac{1}{2}$	26.72	27.05
1933 ...	4	" ...	42	1 13 $\frac{1}{2}$	29.66	30.43
1934 ...	3	" ...	46	1 5	39.07	21.81
1925 ...	31	Ayrshires ...	33	1 14 $\frac{1}{2}$	26.60	31.60
1926 ...	26	" ...	35	2 3 $\frac{1}{2}$	24.66	36.61
1928 ...	25	" ...	36	2 3 $\frac{1}{2}$	25.69	36.38
1929 ...	18	" ...	37 $\frac{1}{2}$	2 1	29.53	33.43
1930 ...	21	" ...	54	2 2	27.02	34.05
1931 ...	21	" ...	35	2 4 $\frac{1}{2}$	27.20	36.19
1932 ...	22	" ...	35	2 3 $\frac{1}{2}$	28.72	36.58
1933 ...	12	" ...	34	2 3 $\frac{1}{2}$	25.84	35.83
1934 ...	30	" ...	32	2 5 $\frac{1}{2}$	25.60	37.28
1925 ...	18	Guernseys ...	100	1 8	22.10	29.41
1926 ...	14	" ...	100	1 11	21.99	32.73
1928 ...	10	" ...	110	1 13 $\frac{1}{2}$	21.75	35.34
1929 ...	10	" ...	84	2 0 $\frac{1}{2}$	24.17	37.16
1930 ...	12	" ...	49	1 14	27.14	32.42
1931 ...	20	" ...	96	1 13 $\frac{1}{2}$	24.80	34.35
1932 ...	12	" ...	80	1 11 $\frac{1}{2}$	26.09	31.23
1933 ...	20	" ...	87	1 11	25.28	30.95
1934 ...	16	" ...	94	1 14 $\frac{1}{2}$	24.27	36.01
1925 ...	24	Jerseys ...	135	1 13 $\frac{1}{2}$	18.61	38.60
1926 ...	25	" ...	126	1 14	19.39	37.61
1928 ...	22	" ...	136	2 2 $\frac{1}{2}$	17.99	43.50
1929 ...	22	" ...	145	1 13 $\frac{1}{2}$	19.86	37.94
1930 ...	22	" ...	37	1 14	15.09	37.61
1931 ...	18	" ...	108	2 4	19.90	42.39
1932 ...	27	" ...	113	2 0 $\frac{1}{2}$	20.34	37.78
1933 ...	24	" ...	87	2 2	21.18	38.05
1934 ...	25	" ...	100	2 3 $\frac{1}{2}$	20.69	41.27
1925 ...	7	Kerries ...	68	1 15 $\frac{1}{2}$	24.58	34.65
1926 ...	5	" ...	39	1 10 $\frac{1}{2}$	25.13	26.82
1928 ...	2	" ...	63	1 2 $\frac{1}{2}$	32.84	21.50
1929 ...	4	" ...	89	1 9	25.82	29.66
1930 ...	1	" ...	47	2 1	23.00	33.00
1931 ...	4	" ...	41	1 7	28.80	23.95
1932 ...	1	" ...	92	2 0 $\frac{1}{2}$	20.93	37.70
1934 ...	5	" ...	68	2 3	20.22	38.82
1925 ...	3	Dexters ...	118	1 5 $\frac{1}{2}$	25.40	29.22
1926 ...	3	" ...	102	1 4 $\frac{1}{2}$	27.97	25.56
1928 ...	5	" ...	79	1 5 $\frac{1}{2}$	25.49	25.55
1929 ...	4	" ...	112	1 6	25.51	29.04
1930 ...	5	" ...	35	1 5 $\frac{1}{2}$	26.45	23.89
1931 ...	5	" ...	106	0 14 $\frac{1}{2}$	29.70	21.07
1932 ...	5	" ...	153	1 1 $\frac{1}{2}$	26.67	25.67
1933 ...	7	" ...	109	1 0 $\frac{1}{2}$	28.01	23.59
1934 ...	3	" ...	143	1 5	25.36	30.23

TABLE III.—AVERAGE YIELD OF BUTTER OF THE DIFFERENT BREEDS SINCE 1924.

Year.	Breed.	No. of Cows.	Days in Milk, 50.	No. of Cows.	Days in Milk, 100.	No. of Cows.	Days in Milk, 135.	No. of Cows.	Days in Milk, 190.
			lbs. ozs.		lbs. ozs.		lbs. ozs.		lbs. ozs.
1925	Shorthorns ...	12	1 12 $\frac{1}{2}$	2	0 15 $\frac{1}{2}$	—	—	1	2 3 $\frac{1}{2}$
1926	" ...	17	1 15 $\frac{1}{2}$	5	1 9 $\frac{1}{2}$	—	—	1	1 3
1928	" ...	9	1 5 $\frac{1}{2}$	6	1 6 $\frac{1}{2}$	5	1 1 $\frac{1}{2}$	—	—
1929	" ...	17	1 10 $\frac{1}{2}$	6	1 6	3	1 3 $\frac{1}{2}$	1	2 0 $\frac{1}{2}$
1930	" ...	10	1 7	7	1 13 $\frac{1}{2}$	3	1 7	1	1 8
1931	" ...	15	1 14 $\frac{1}{2}$	6	1 11 $\frac{1}{2}$	4	1 11	1	2 9 $\frac{1}{2}$
1932	" ...	19	1 7 $\frac{1}{2}$	5	1 9	—	—	—	—
1933	" ...	15	1 15	—	—	3	1 10	—	—
1934	" ...	14	1 15	6	1 11	2	1 1 $\frac{1}{2}$	—	—
1925	Lincoln Reds ...	8	2 2	2	1 14 $\frac{1}{2}$	—	—	—	—
1926	" ...	4	2 8 $\frac{1}{2}$	—	—	—	—	—	—
1928	" ...	4	2 2	—	—	—	—	—	—
1929	" ...	4	2 3 $\frac{1}{2}$	—	—	—	—	—	—
1930	" ...	4	2 3	2	2 3 $\frac{1}{2}$	2	1 10 $\frac{1}{2}$	—	—
1931	" ...	8	2 1 $\frac{1}{2}$	—	—	—	—	—	—
1932	" ...	5	1 10	—	—	—	—	—	—
1933	" ...	3	1 14 $\frac{1}{2}$	—	—	—	—	1	1 2 $\frac{1}{2}$
1934	" ...	2	1 8	—	—	—	—	1	1 15 $\frac{1}{2}$
1925	British Friesians	13	1 14	5	2 0 $\frac{1}{2}$	1	2 5 $\frac{1}{2}$	—	—
1926	" ...	15	2 4 $\frac{1}{2}$	6	2 3 $\frac{1}{2}$	3	1 8 $\frac{1}{2}$	1	2 4 $\frac{1}{2}$
1928	" ...	13	1 15	3	2 2 $\frac{1}{2}$	3	1 4 $\frac{1}{2}$	—	—
1929	" ...	15	1 14	1	2 12	—	—	—	—
1930	" ...	14	2 0	5	1 14 $\frac{1}{2}$	—	—	—	—
1931	" ...	15	2 3 $\frac{1}{2}$	—	—	1	1 10	—	—
1932	" ...	27	2 2	3	1 9 $\frac{1}{2}$	—	—	—	—
1933	" ...	18	2 5	1	1 15	—	—	—	—
1934	" ...	12	2 6 $\frac{1}{2}$	2	1 8 $\frac{1}{2}$	1	2 5 $\frac{1}{2}$	1	3 1
1925	South Devons ...	1	3 2 $\frac{1}{2}$	—	—	—	—	1	1 13 $\frac{1}{2}$
1926	" ...	—	—	1	3 2 $\frac{1}{2}$	—	—	—	—
1928	" ...	1	2 14	1	1 9	—	—	—	—
1929	" ...	1	3 6	1	1 17	—	—	1	2 6 $\frac{1}{2}$
1930	" ...	6	2 3 $\frac{1}{2}$	—	—	—	—	—	—
1931	" ...	7	2 0 $\frac{1}{2}$	—	—	1	2 15 $\frac{1}{2}$	1	2 9 $\frac{1}{2}$
1932	" ...	9	1 12 $\frac{1}{2}$	7	1 14 $\frac{1}{2}$	1	2 0	2	1 14 $\frac{1}{2}$
1933	" ...	13	1 13	1	3 0	—	—	—	—
1934	" ...	9	2 2 $\frac{1}{2}$	3	2 1	—	—	—	—
1925	Dairy South Devon	—	—	—	—	1	2 4 $\frac{1}{2}$	—	—
1928	" ...	—	—	1	2 6 $\frac{1}{2}$	3	2 2 $\frac{1}{2}$	1	3 12 $\frac{1}{2}$
1929	" ...	1	2 10 $\frac{1}{2}$	3	1 15	1	1 13 $\frac{1}{2}$	1	2 13 $\frac{1}{2}$
1930	" ...	3	2 3 $\frac{1}{2}$	1	1 9	1	2 3 $\frac{1}{2}$	1	2 3 $\frac{1}{2}$
1925	Devons ...	7	1 15	—	—	—	—	—	—
1926	" ...	1	2 3 $\frac{1}{2}$	—	—	—	—	—	—
1928	" ...	—	—	—	—	—	—	1	1 1
1929	" ...	1	1 9	—	—	—	—	—	—
1930	" ...	—	—	1	0 9 $\frac{1}{2}$	—	—	1	1 8 $\frac{1}{2}$
1932	" ...	1	1 4	1	1 2	1	1 12	1	1 2 $\frac{1}{2}$
1934	" ...	—	—	3	2 0	1	0 15 $\frac{1}{2}$	—	—
1925	Red Polls ...	6	1 14 $\frac{1}{2}$	1	1 10 $\frac{1}{2}$	—	—	1	1 10 $\frac{1}{2}$
1926	" ...	10	1 10 $\frac{1}{2}$	4	1 11 $\frac{1}{2}$	2	1 13 $\frac{1}{2}$	1	1 9
1928	" ...	7	1 13	7	1 13	2	1 15 $\frac{1}{2}$	1	1 13
1929	" ...	9	1 9 $\frac{1}{2}$	4	1 8 $\frac{1}{2}$	—	—	—	—
1930	" ...	12	1 10 $\frac{1}{2}$	8	1 10	2	1 7	1	2 7
1931	" ...	9	1 15 $\frac{1}{2}$	2	1 9	—	—	1	2 6 $\frac{1}{2}$
1932	" ...	5	2 0 $\frac{1}{2}$	4	1 9 $\frac{1}{2}$	—	—	1	1 6 $\frac{1}{2}$
1933	" ...	5	1 12	9	1 9 $\frac{1}{2}$	1	1 8	—	—
1934	" ...	14	1 11	9	1 6	1	2 6 $\frac{1}{2}$	2	0 15 $\frac{1}{2}$

TABLE III.—AVERAGE YIELD OF BUTTER OF THE DIFFERENT BREEDS SINCE 1924—Continued.

Year.	Breed.	No. of Cows.	Days in Milk, 50.	No. of Cows.	Days in Milk, 100.	No. of Cows.	Days in Milk, 135.	No. of Cows.	Days in Milk, 190.
			lbs. ozs.		lbs. ozs.		lbs. ozs.		lbs. ozs.
1925	Blue Albions ...	4	2 3	1	1 8	—	—	—	—
1926	" ...	3	1 14 $\frac{1}{2}$	—	—	1	1 12 $\frac{1}{2}$	—	—
1929	" ...	2	1 13 $\frac{1}{2}$	—	—	—	—	—	—
1930	" ...	1	2 8 $\frac{1}{2}$	—	—	—	—	—	—
1931	" ...	1	1 10	—	—	—	—	—	—
1925	Welsh Blacks ...	2	1 15 $\frac{1}{2}$	—	—	—	—	—	—
1926	" ...	1	1 10 $\frac{1}{2}$	—	—	—	—	—	—
1933	" ...	3	2 2	1	1 12	—	—	—	—
1934	" ...	2	1 7 $\frac{1}{2}$	1	0 15 $\frac{1}{2}$	—	—	—	—
1925	Ayrshires ...	27	1 14 $\frac{1}{2}$	4	1 14 $\frac{1}{2}$	—	—	—	—
1926	" ...	21	2 3 $\frac{1}{2}$	4	2 4 $\frac{1}{2}$	1	2 7 $\frac{1}{2}$	—	—
1928	" ...	21	2 4 $\frac{1}{2}$	3	1 13 $\frac{1}{2}$	1	2 0 $\frac{1}{2}$	—	—
1929	" ...	14	2 2	4	1 15	—	—	—	—
1930	" ...	20	2 2 $\frac{1}{2}$	1	1 10 $\frac{1}{2}$	—	—	—	—
1931	" ...	18	2 4 $\frac{1}{2}$	3	1 14 $\frac{1}{2}$	—	—	—	—
1932	" ...	19	2 3 $\frac{1}{2}$	2	2 9	1	2 2	—	—
1933	" ...	10	2 2 $\frac{1}{2}$	2	2 8	—	—	—	—
1934	" ...	30	2 5 $\frac{1}{2}$	—	—	—	—	—	—
1925	Guernseys ...	6	1 7 $\frac{1}{2}$	2	1 5 $\frac{1}{2}$	3	1 10	2	1 8 $\frac{1}{2}$
1926	" ...	2	2 6 $\frac{1}{2}$	5	1 5 $\frac{1}{2}$	4	1 13 $\frac{1}{2}$	2	1 8
1928	" ...	3	1 14 $\frac{1}{2}$	3	2 0 $\frac{1}{2}$	1	1 11	1	2 3 $\frac{1}{2}$
1929	" ...	4	2 0 $\frac{1}{2}$	3	2 8 $\frac{1}{2}$	1	1 15	2	1 7
1930	" ...	5	1 10 $\frac{1}{2}$	5	2 1 $\frac{1}{2}$	—	—	1	1 11 $\frac{1}{2}$
1931	" ...	4	1 13 $\frac{1}{2}$	9	1 13 $\frac{1}{2}$	3	1 11 $\frac{1}{2}$	2	1 8 $\frac{1}{2}$
1932	" ...	5	1 8	3	1 8	2	2 4	2	1 14 $\frac{1}{2}$
1933	" ...	8	1 14 $\frac{1}{2}$	5	1 12 $\frac{1}{2}$	4	1 7	1	0 14 $\frac{1}{2}$
1934	" ...	2	2 1	8	1 15 $\frac{1}{2}$	4	1 13 $\frac{1}{2}$	2	1 10 $\frac{1}{2}$
1925	Jerseys ...	4	1 13 $\frac{1}{2}$	5	2 1 $\frac{1}{2}$	4	1 6	5	2 0 $\frac{1}{2}$
1926	" ...	2	2 0 $\frac{1}{2}$	7	1 11 $\frac{1}{2}$	7	1 12 $\frac{1}{2}$	7	1 15 $\frac{1}{2}$
1928	" ...	2	2 11 $\frac{1}{2}$	7	2 6 $\frac{1}{2}$	7	2 2 $\frac{1}{2}$	8	2 1 $\frac{1}{2}$
1929	" ...	2	1 8	5	2 2 $\frac{1}{2}$	—	—	9	1 11
1930	" ...	3	1 15 $\frac{1}{2}$	7	1 15 $\frac{1}{2}$	4	1 15	9	1 14 $\frac{1}{2}$
1931	" ...	5	2 7 $\frac{1}{2}$	3	2 4	4	2 1	5	2 4
1932	" ...	5	2 1	7	2 3 $\frac{1}{2}$	6	2 3	7	1 12 $\frac{1}{2}$
1933	" ...	10	2 1 $\frac{1}{2}$	3	2 3 $\frac{1}{2}$	7	2 1	2	2 7
1934	" ...	4	2 5 $\frac{1}{2}$	9	2 5	5	2 2 $\frac{1}{2}$	5	2 2
1925	Kerries ...	5	2 3	—	—	—	—	2	1 5 $\frac{1}{2}$
1926	" ...	4	1 12 $\frac{1}{2}$	1	1 2 $\frac{1}{2}$	—	—	—	—
1928	" ...	1	0 15 $\frac{1}{2}$	—	—	1	1 5	—	—
1929	" ...	1	2 3 $\frac{1}{2}$	3	1 5 $\frac{1}{2}$	—	—	—	—
1930	" ...	1	2 1	—	—	—	—	—	—
1931	" ...	2	1 8 $\frac{1}{2}$	2	1 6	—	—	—	—
1932	" ...	—	—	1	2 0 $\frac{1}{2}$	—	—	—	—
1934	" ...	2	2 6 $\frac{1}{2}$	2	1 15 $\frac{1}{2}$	—	—	1	2 2 $\frac{1}{2}$
1925	Dexters ...	1	1 10 $\frac{1}{2}$	—	—	—	—	2	1 3 $\frac{1}{2}$
1926	" ...	1	1 2 $\frac{1}{2}$	1	1 3 $\frac{1}{2}$	—	—	1	1 6 $\frac{1}{2}$
1928	" ...	1	1 4	3	1 7 $\frac{1}{2}$	—	—	1	1 0 $\frac{1}{2}$
1929	" ...	—	—	2	1 8 $\frac{1}{2}$	—	—	2	1 3 $\frac{1}{2}$
1930	" ...	3	1 6	1	1 5	1	1 5	—	—
1931	" ...	—	—	2	1 0 $\frac{1}{2}$	2	1 0	1	0 8
1932	" ...	—	—	—	—	3	1 2	1	1 2 $\frac{1}{2}$
1933	" ...	1	1 0 $\frac{1}{2}$	1	0 11	1	1 7	3	1 0 $\frac{1}{2}$
1934	" ...	—	—	1	1 12 $\frac{1}{2}$	—	—	2	2 1

BUTTER TESTS—SHORTHORNS.

No. in Catalogue	Exhibitor	Name of Animal	Live Weight lbs.	Date of Birth	Date of last Calf 1934	No. of Days in Milk	Milk Yield				Butter Yield lbs. ozs.	Ratio, viz., lbs. Milk to lbs. Butter	Colour and Quality of Butter		No. of Points for Butter	No. of Points for Lactation	Total Number of	Awards
							Morn.	Aft.	Even.	Total			Colour	Quality				
3	C. J. Alday ...	Fothering Water	1235	Oct. 4, 1927	Sept. 1	51	28.5	26.2	28.0	82.7	1 14	44.22	Fair	Fair	30.0	1.1	31.1	
4	G. H. Willis ...	Princess Best ...	1185	June 8, 1926	Sept. 27	25	20.8	19.5	20.3	60.6	1 15½	31.00	V. Fair	V. Fair	31.25	—	31.25	
6	Chivers & Sons, Ltd.	Revels Darling-	1516	Oct. 3, 1927	Aug. 22	61	19.6	19.3	19.2	58.1	1 8	38.73	Pale	Poor	24.0	2.1	26.1	
7	J. W. Smith & Son	Kentish Honey	1598	Feb. 28, 1927	June 20	118	26.6	27.7	21.3	75.6	1 7	52.50	V. Fair	Poor	23.0	7.8	30.8	
10	F. Chapman ...	Knells Elliot	1405	Feb. 10, 1929	Sept. 16	36	26.3	24.3	20.7	71.3	1 5½	53.05	Pale	V. Fair	21.5	—	21.5	
13	C. A. Chillingworth	Siddlingworth	1484	Aug. 2, 1928	Sept. 28	24	23.4	24.2	24.6	72.2	1 9½	45.41	Good	Good	25.25	—	25.25	
14	E. U. Gillate ...	Rose 2nd 13th	1539	Dec. 5, 1923	Sept. 26	26	26.7	24.5	20.3	71.5	2 8½	28.26	Fair	V. Good	40.5	—	40.5	4th Prize
15	T. W. M. Perkins	Holmelacy Lily	1225	Sept. 10, 1928	Aug. 25	53	22.8	20.0	20.2	63.0		Disq.						
21	Chivers & Sons, Ltd.	Duchess of 5th	1452	Sept. 5, 1930	Aug. 23	60	20.0	17.7	18.7	56.4	2 8½	22.20	Pale	V. Good	40.5	2.0	42.5	2nd Prize
25	J. O. Fane ...	Histon 8th	1317	Sept. 27, 1929	Sept. 9	43	22.4	22.1	23.0	67.5	2 8½	20.08	Fair	Good	40.5	.3	40.8	3rd Prize
29	University of Edinburgh	Steventon Grace	1192	Aug. 17, 1929	Sept. 9	43	17.2	16.2	14.3	47.7	1 5½	35.86	Pale	Poor	21.5	.3	21.8	
30	Sir Mark Collet, Bt.	St. Clare	1350	June 27, 1930	Aug. 31	52	20.9	22.1	22.8	65.8	1 7½	44.70	V. Pale	V. Poor	23.5	1.2	24.7	
31	Sir Mark Collet, Bt.	Millicent 11th	1356	Aug. 31, 1930	Aug. 13	70	14.7	16.1	15.6	46.4	1 3½	38.51	Pale	Good	19.25	3.0	22.25	
32	Sir Mark Collet, Bt.	Driffold 13th	1008	Dec. 26, 1930	Sept. 27	25	21.7	20.6	21.8	64.1	2 6	27.05	Fair	V. Good	38.0	—	38.0	H.C.
34	J. P. Morgan ...	St. Clare Lady	1472	Aug. 18, 1930	July 31	83	18.7	19.5	19.3	57.5	1 8½	37.58	Pale	V. Poor	24.5	4.3	28.8	H.C.
35	J. P. Morgan ...	Aldenhams Lady	1380	Oct. 24, 1930	July 10	104	20.8	15.3	20.2	56.3	0 12	75.07	Pale	Good	12.0	6.4	18.4	
42	W. H. Vigus ...	Revels Roan	1302	July 23, 1930	Sept. 10	42	24.6	25.4	24.8	74.8	2 7½	30.28	Good	Fair	39.5	.2	39.7	H.C.

BUTTER TESTS—SHORTHORNS—Continued.

No. in Catalogue	Exhibitor	Name of Animal	Live Weight lbs.	Date of Birth	Date of last Calf 1934	No. of Days in Milk	Milk Yield				Butter Yield lbs. ozs.	Ratio to lbs. Butter	Colour and Quality of Butter		No. of Points for Butter	No. of Points for Lactation	Total Number of Points	Awards
							Morn. lbs.	Aft. lbs.	Even. lbs.	Total lbs.								
79	C. Birnstingl ...	Rosemary	1415	Unknown	Sept. 26	26	23.0	26.0	25.9	74.9	1 14	40.05	Good	Poor	30.0	—	30.0	H.C.
80	B. P. Stockley	Fanny	1250	Unknown	Sept. 17	35	30.6	28.3	29.0	87.9	2 34	34.95	Pale	Poor	40.25	—	40.25	Reserve
81	University Farm, Cambridge	Daisy 5th	1438	Nov. 18, 1928	Sept. 16	36	23.1	27.8	25.4	76.3	1 12	42.51	Pale	Poor	28.75	—	28.75	H.C.
82	T. B. Bucknell	Snowball	1368	Dec., 1928	Sept. 18	34	27.5	27.0	27.3	81.8	2 7	38.52	Good	Good	39.0	—	39.0	H.C.
83	Napsbury Mental Hospital Farm	Hilton	1323	1928	Sept. 24	28	10.6	18.7	20.9	59.2	1 5	44.01	Good	Fair	21.75	—	21.75	
91	J. & H. Jackson	Tulip	1029	Unknown	Sept. 25	27	11.7	12.3	11.7	35.7	0 14	39.67	Fair	Good	14.5	—	14.5	
103	F. R. Wood	Bendish Sunbeam 12th	1438	May 5, 1930	Sept. 11	41	13.6	10.2	10.6	48.4	1 5	35.69	Pale	Fair	21.0	1	21.1	
104	F. Sainsbury	Bendish Poppy	1481	Feb. 28, 1925	May 17	158	17.2	15.7	17.8	50.7	1 15	25.93	Good	Good	31.25	11.8	43.05	1st Prize
105	F. Sainsbury	Wrattling Sunbeam	1383	Sept. 19, 1930	Sept. 11	41	12.5	14.6	8.7	35.8	1 11	21.00	Fair	Good	27.25	1	27.35	

BUTTER TESTS—SHORTHORNS—Continued.

No. in Catalogue.	Name of Animal.	CHURNING—TIME AND TEMPERATURE				Buttermilk when churning finished
		Churning began	Churning finished	Duration of Churning	Dairy	Temperature of F.
				Minutes	Degrees	Degrees
3	Pothering Water Baby	9 0 a.m.	9 30 a.m.	30	68	57
4	Princess Best	8 50 "	9 47 "	57	68	63
6	Revels Darlington Dream	8 50 "	9 20 "	30	68	57
7	Kentish Honey Jean	9 5 "	9 35 "	30	68	57
10	Kentish Honey Jean	9 5 "	9 25 "	22	68	57
13	Kentish Honey Jean	9 5 "	9 25 "	22	68	57
14	Sidgworth Rose 2nd	9 58 "	10 58 "	60	70	56
21	Orford Fancy 13th	9 5 "	7 54 "	49	68	60
25	Stadness of Histon 8th	10 35 "	7 9 "	24	68	55
26	Devonshire Grace	10 35 "	11 9 "	25	70	57
29	Peart Beech 1st	9 58 "	11 9 "	27	68	62
30	St. Clare Winton 11th	9 58 "	9 52 "	31	68	56
31	St. Clare Winton 11th	9 4 "	9 52 "	31	68	56
32	St. Clare Winton 11th	9 4 "	9 52 "	31	68	56
34	St. Clare Winton 11th	11 12 "	11 32 "	20	68	62
35	St. Clare Winton 11th	11 12 "	11 32 "	20	68	62
36	St. Clare Winton 11th	11 12 "	11 32 "	20	68	62
42	Revels Roan Almetta	9 47 "	10 35 "	48	68	57
79	Rosemary	9 52 "	10 14 "	22	68	57
80	Fanny	9 52 "	10 14 "	22	68	57
81	Daisy 6th	9 52 "	10 14 "	22	68	57
82	Snowball	11 12 "	11 52 "	40	68	57
83	Helton	9 10 "	9 37 "	27	68	57
91	Tulip	9 10 "	9 44 "	27	68	57
103	Bendish Sunbeam 12th	9 26 "	10 20 "	54	68	58
104	Bendish Poppy 9th	9 23 "	9 54 "	31	68	58
106	Wratting Sunbeam	10 3 "	10 45 "	42	70	53

BUTTER TESTS—BRITISH FRIESIANS.

No. in Catalogue	Exhibitor	Name of Animal	Live Weight lbs.	Date of Birth	Date of last Calf 1934	No. of Days in Milk	Milk Yield				Butter Yield lbs. ozs.	Ratio to lbs. Butter, viz., lbs.	Colour and Quality of Butter		No. of Points for Butter	No. of Points for Lactation	Total Number of Points	Awards
							Morn.	Aft.	Even.	Total			Colour	Quality				
117	Lord Rayleigh	Torling Eclipse.	1458	Jan. 20, 1926	Sept. 12	40	25.4	25.3	29.4	80.1	1 7½	53.94	Pale	Fair	23.75	—	23.75	H.C.
120	Lord Rayleigh	Torling Profit	1304	July 2, 1927	Aug. 20	63	27.9	23.4	23.2	74.5	2 1	30.17	Pale	Fair	33.0	2.3	35.3	H.C.
121	J. E. Castle	Curbridge Jessamine	1390	Mar. 2, 1929	Oct. 6	16	34.3	33.5	33.4	101.2	2 9½	38.85	Good	Good	41.75	—	41.75	H.C.
122	Capt. J. Christie	Glyndebourne	1423	Nov. 24, 1928	Sept. 12	40	31.3	24.9	30.4	86.6	—	Disq.	—	—	—	—	—	—
123	A. J. Creed	Hawthorn Kappa	1433	May 6, 1927	Oct. 8	14	23.7	22.6	23.1	69.4	1 10	42.84	Fair	Good	26.0	—	26.0	3rd Prize
124	J. & B. M. Dale	Felhampton Groundsel	1488	May 21, 1924	Oct. 6	16	26.9	24.1	26.2	77.2	3 3	24.20	V. Good	Ex.	51.0	—	51.0	3rd Prize
126	Strutt & Parker (Farms), Ltd.	Lavenham 3rd Chantry	1681	Aug. 12, 1925	July 1	113	28.0	25.8	29.9	83.7	2 4½	20.71	Pale	Fair	36.5	7.3	43.8	Reserve
127	T. G. Fairhead	Covenbrook Lively 2nd	1487	Feb. 4, 1926	June 7	137	33.2	31.3	30.7	95.2	3 0½	31.27	Fair	V. Poor	48.75	9.7	58.45	1st Prize
132	C. Ball	Oakham Dainty	1699	April 20, 1927	Oct. 1	21	32.2	29.7	29.8	91.7	3 8½	25.87	Good	V. Good	50.75	—	56.75	2nd Prize
133	C. Ball	Barston Merry-maid 2nd	1405	Mar. 18, 1926	Sept. 22	30	24.5	24.8	25.8	75.1	1 9½	46.79	Fair	Poor	25.75	—	25.75	—
134	C. Ball	Abingworth Dainty	1318	Aug. 2, 1928	Sept. 28	24	25.4	24.4	26.0	75.8	2 14½	20.14	Good	V. Good	46.5	—	46.5	4th Prize
135	F. N. Terry	Chebbard Jan. rosa	1381	Feb. 11, 1929	Oct. 5	17	22.6	27.3	24.4	74.3	2 7½	30.26	Good	Fair	39.25	—	39.25	H.C.
140	J. Fawcett	Tisted Sylvia	1294	Oct., 1929	July 19	95	17.6	16.2	15.7	49.5	1 0½	48.06	Good	V. Fair	16.5	5.5	22.0	—
141	J. H. Brown	Marshgreen Kathleen	1417	Sept. 6, 1929	Sept. 22	30	25.6	23.4	26.6	75.6	2 5½	32.66	Good	V. Good	37.25	—	37.25	H.C.
146	Piddington (Northants.) Estates, Ltd.	Piddington Flora	1351	Oct. 31, 1929	Oct. 3	19	22.7	23.3	22.7	68.7	2 10½	25.78	Good	V. Good	42.75	—	42.75	H.C.
147	Piddington (Northants.) Estates, Ltd.	Piddington Festus Daisy	1313	Oct. 19, 1930	Sept. 24	28	21.1	22.9	23.6	67.6	2 4½	20.65	Good	V. Good	38.5	—	38.5	H.C.

BUTTER TESTS—BRITISH FRIESIANS—Continued.

No. in Catalogue	Exhibitor	Name of Animal	Live Weight lbs.	Date of Birth	Date of last Calf 1934	No. of Days in Milk	Milk Yield				Butter Yield		Ratio, viz., lbs. Milk to lbs. Butter	Colour and Quality of Butter		No. of Points for Butter	No. of Points for Lactation	Total Number of Points	Awards
							Morn. lbs.	Aft. lbs.	Even. lbs.	Total lbs.	lbs	ozs							
148	J. Iliffe	Ingatestone	1293	July 31, 1930	Oct. 7	15	27.3	30.0	28.8	86.1	2	4	38.27	Good	V. Good	36.0	—	36.0	H.C.
159	C. Ball	Lady Betty Abingworth Hazel	1074	Mar. 19, 1932	Sept. 12	40	19.5	19.7	20.9	60.1			Disq.						

BUTTER TESTS—BRITISH FRIESLIANS—Continued.

No. in Catalogue.	Name of Animal.	CHURNING—TIME AND TEMPERATURE					
		Time			Temperature °F.		
		Churning began	Churning finished	Duration of Churning	Dairy	Cream and Churn	Buttermilk when churning finished
				Minutes	Degrees	Degrees	Degrees
117	Terling Eclipse 15th	9 20 a.m.	9 48 a.m.	28	68	52	57
120	Terling Profit 9th	9 44 "	10 30 "	46	70	52	58
121	Curbridge Jessamine	10 45 "	11 6 "	21	70	52	53
123	Hawthorn Katja	10 20 "	10 50 "	30	70	52	56
124	Felhampton Groundsel	10 58 "	11 18 "	20	70	52	57
126	Lavenham Chaucery 3rd	11 24 "	12 noon	36	70	52	56
127	Covenbrook Lively 2nd	11 4 "	11 40 a.m.	36	70	52	54
132	Oakham Dainty	2 27 p.m.	2 45 p.m.	18	70	52	61
133	Barnston Merrymaid 2nd	10 30 a.m.	11 20 a.m.	50	70	52	58
134	Abingworth Dainty	11 13 "	11 30 "	17	70	52	56
135	Chesham Janessa	10 40 "	11 4 "	24	70	52	56
140	Tisted Sylvia	10 34 "	11 0 "	26	70	52	57
141	Marshgreen Kathleen	11 43 "	12 35 p.m.	52	70	52	58
146	Piddington Flora	11 22 "	11 45 a.m.	23	70	52	56
147	Piddington Festus Daisy	11 25 "	12 0 noon	35	70	52	56
148	Ingatestone Lady Betty	10 50 "	11 20 a.m.	30	70	52	57

BUTTER TESTS—SOUTH DEVONS.

No. in Catalogue	Exhibitor	Name of Animal	Live Weight lbs.	Date of Birth	Date of last Calf 1934	No. of Days in Milk	Milk Yield				Butter Yield lbs. ozs.	Ratio, viz., lbs. Milk to lbs. Butter	Colour and Quality of Butter		No. of Points for Butter	No. of Points for Lactation	Total Number of Points	Awards
							Morn. lbs.	Aft. lbs.	Even. lbs.	Total lbs.			Colour	Quality				
160	Miss J. Smith ...	Crocus ...	1691	April 6, 1929	Sept. 17	35	25.0	20.0	18.0	63.0	3 13½	16.45	V. Good	V. Good	61.5	—	61.5	1st Prize
161	J. Rossiter ...	Graceful ...	1536	May 22, 1928	Sept. 15	37	22.8	13.7	27.6	64.1	2 8½	25.19	Good	V. Poor	40.75	—	40.75	3rd Prize
162	Dartington Hall, Ltd.	Englebourne Daisy 7th	1598	April 28, 1926	Sept. 6	46	20.5	19.3	20.2	60.0	2 7½	24.15	V. Good	V. Good	39.75	6	40.35	4th Prize
165	Dartington Hall, Ltd.	Manor Dora ...	1370	Nov. 17, 1926	Sept. 1	51	24.5	20.1	22.6	67.2	2 8	26.88	Ex.	Ex.	40.0	1.1	41.1	2nd Prize
166	Dartington Hall, Ltd.	Dartington Vera	1296	Mar., 1927	Sept. 23	29	21.1	22.5	20.8	64.4	1 11½	37.12	V. Good	Good	27.75	—	27.75	H.C.
167	Dartington Hall, Ltd.	Cinderella ...	1024	June 22, 1929	Aug. 28	55	17.3	17.0	17.1	51.4	2 2½	24.07	Good	Good	34.25	1.5	35.75	H.C.
168	Dartington Hall, Ltd.	Dartington Hall 1384	1384	Aug. 6, 1930	Sept. 7	45	15.7	17.3	17.4	50.4	1 2½	44.41	Fair	Poor	18.25	5	18.75	H.C.
169	Dartington Hall, Ltd.	Dartington Hall 1486	1486	Oct. 12, 1930	Sept. 21	31	21.5	20.3	20.8	62.6	2 1½	20.95	Fair	V. Good	33.5	—	33.5	H.C.
171	Dartington Hall, Ltd.	Ferry Jasmine	1772	Mar. 4, 1930	Aug. 10	73	20.0	20.9	18.9	59.8	1 9½	37.97	Fair	V. Good	25.25	3.3	28.55	H.C.
173	G. Wills ...	Milkmaid 3rd ...	1894	Oct. 3, 1920	Oct. 2	20	18.8	20.9	20.1	59.8	2 6½	24.92	V. Good	Ex.	38.5	—	38.5	Reserve
174	G. Wills ...	Milkmaid 6th ...	1490	Oct. 7, 1930	Oct. 7	15	13.9	13.8	13.8	41.5	2 0½	20.29	V. Good	Ex.	32.75	—	32.75	H.C.
175	G. Wills ...	Rydon Priscilla	1131	Oct. 21, 1931	Sept. 11	41	10.5	10.2	9.3	30.0	1 4	24.00	Good	Ex.	20.0	1	20.1	

BUTTER TESTS—SOUTH DEVONS—Continued.

No. in Catalogue.	Name of Animal.	CHURNING—TIME AND TEMPERATURE					
		Time		Duration of Churning	Dairy	Temperature °F.	
		Churning began	Churning finished			Cream and Churn	Buttermilk when churning finished
				Minutes	Degrees	Degrees	Degrees
160	Crocus	10 45 a.m.	11 6 a.m.	21	70	52	55
161	Graceful	12 0 noon	12 34 p.m.	34	70	52	55
162	Englebourne Daisy 7th	11 55 a.m.	12 54 "	59	70	52	57
165	Manor Dora	11 53 "	12 20 "	27	70	32	58
166	Dartington Vera ...	11 45 "	12 8 "	23	70	52	59
167	Cinderella	12 5 p.m.	12 25 "	20	70	52	60
168	Dartington Hall Pat 2nd	11 41 a.m.	12 35 "	54	70	52	56
169	Dartington Hall Gentle 8th	10 14 "	10 45 a.m.	31	70	52	56
171	Ferry Jasmine	11 45 "	12 40 p.m.	55	70	52	60
173	Milkmaid 3rd	1 50 p.m.	2 23 "	38	70	52	58
174	Milkmaid 5th	11 13 a.m.	11 55 a.m.	42	70	52	55
175	Rydon Priscilla ...	10 25 "	11 12 a.m.	47	70	52	57

BUTTER TESTS—RED POLLS.

No. in Catalogue	Exhibitor	Name of Animal	Live Weight lbs.	Date of Birth	Date of last Calf 1934	No. of Days in Milk	Milk Yield				Butter Yield lbs. ozs.	Ratio, viz. Butte. Milk to lbs. Butter	Colour and Quality of Butter		No. of Points for Butter	No. of Points for Lactation	Total Number of Points	Awards
							Morn. lbs.	Aft. lbs.	Even. lbs.	Total lbs.			Colour	Quality				
187	Lt.-Col. Sir Merrik R. Burrell, Bt.	Knepp Prudence 7th	1210	May 6, 1926	Sept. 7	45	25.7	25.4	26.3	77.4	2 11	37.03	Pale	Good	33.5	.5	34.0	4th Prize
188	Lt.-Col. Sir Merrik R. Burrell, Bt.	Knepp Prudence 11th	1375	July 2, 1929	Sept. 13	39	21.3	21.8	19.8	62.9	1 8	41.11	Pale	Poor	24.5	—	24.5	
189	Mrs. M. L. Griffith	Hallingbury Snowdrop	1070	Feb. 1, 1928	Aug. 28	55	19.5	19.6	17.6	56.7	1 15	28.78	Fair	Good	31.5	1.5	33.0	
190	C. H. Cearn	Heveningham Daring	1268	Dec. 7, 1928	Aug. 15	68	17.0	18.0	17.5	52.5	1 9	33.33	Pale	Good	25.25	2.8	28.05	
191	C. H. Cearn	Weston Peggy	1218	Mar. 17, 1928	Aug. 1	82	19.8	21.1	20.7	61.6	2 0	30.12	Fair	Good	32.75	4.2	36.95	3rd Prize
192	C. H. Cearn	Weston Bell	1183	Dec. 12, 1927	June 23	121	21.7	22.0	20.6	64.3	2 6	26.63	Fair	Good	38.75	8.1	46.85	2nd Prize
194	Mrs. R. M. Foot	White Hill Fair Flirt	1381	Aug. 13, 1928	May 2	173	11.0	11.1	10.7	32.8	1 0	31.39	V. Pale	Fair	16.75	12.0	28.75	
195	Mrs. R. M. Foot	White Hill Red Briar	1271	Mar. 2, 1929	Aug. 31	52	22.1	20.4	21.4	63.9	1 3	41.76	Fair	V. Poor	28.5	1.2	29.7	
196	S. Paul	Holton Rainbow 6th	1515	Aug. 17, 1926	Sept. 16	36	20.2	18.4	19.6	58.2	2 0	29.10	Fair	Fair	32.0	—	32.0	
197	S. Paul	Samford Witch- 6th	1076	Dec. 10, 1928	Sept. 17	35	22.7	22.6	21.8	67.1	3 0	22.37	Fair	V. Good	48.0	—	48.0	1st Prize
198	S. Paul	Kirtion Dupli- 6th	1054	Mar. 30, 1929	Oct. 7	15	19.2	19.5	18.3	57.0	2 0	28.50	Fair	V. Good	32.0	—	32.0	
201	Mrs. H. D. Lewis	Combwell Rosie	1065	Feb. 21, 1930	Sept. 26	26	20.2	20.8	21.6	62.6	1 4	50.08	Fair	V. Poor	20.0	—	20.0	
203	Mrs. R. M. Foot	White Hill Reck- less	1173	Dec. 22, 1930	Sept. 12	40	21.4	22.2	21.5	65.1	1 2	56.61	V. Pale	V. Poor	18.5	—	18.5	
204	Mrs. R. M. Foot	White Hill Charming Delight	1089	Jan. 4, 1930	Sept. 22	30	18.3	17.9	17.1	53.3	2 1	25.32	Pale	V. Good	33.75	—	33.75	Reserve
205	Mrs. R. M. Foot	White Hill Fair Flighty	951	Feb. 9, 1931	Aug. 28	55	17.2	17.1	17.6	51.9	1 7	34.95	Pale	Good	23.75	1.5	25.25	
206	S. Paul	Kirtion Quakeress	1194	Aug. 17, 1930	Sept. 24	28	16.0	16.1	15.5	47.6	2 0	23.62	Fair	V. Good	32.25	—	32.25	H.C.

BUTTER TESTS—RED POLLS—Continued.

No. in Catalogue	Exhibitor	Name of Animal	Live Weight lbs.	Date of Birth	Date of last Calf 1934	No. of Days in Milk	Milk Yield				Butter Yield lbs. ozs.	Ratio, viz., lbs. Milk to lbs. Butter	Colour and Quality of Butter		No. of Points for Butter	No. of Points for Lactation	Total Number of	Awards
							Morn.	Aft.	Even.	Total			Colour	Quality				
							lbs.	lbs.	lbs.	lbs.								
207	S. Paul	Kirtou Duplex	903	Feb. 19, 1930	Aug. 25	58	12.7	20.0	15.4	48.1	1 34	48.95	Pale	Fair	10.75	1.8	21.55	
208	Major H. D. Roberts	Capel Gemma 2nd	1070	June 11, 1931	Sept. 22	30	11.3	10.7	10.7	32.7	1 44	35.55	Good	V. Good	20.5	—	20.5	
210	Brooks (Mistley), Ltd.	Mistley Amethyst	1190	Jan. 24, 1931	Sept. 8	44	16.8	16.7	13.8	47.3	1 74	32.51	Fair	Good	23.25	.4	23.65	
211	J. W. Towler	Lock Earing	752	Feb. 13, 1932	May 31	144	11.5	10.5	12.2	34.2	0 144	37.38	Fair	Poor	14.75	10.4	25.15	H.C.
212	Lt.-Col. Sir Merrick R. Burrell, Bt.	Knepp Cowship 17th	1125	Aug. 23, 1931	Oct. 3	19	14.3	14.4	13.9	42.6	1 74	29.98	Fair	V. Fair	23.5	—	23.5	H.C.
213	Lt.-Col. Sir Merrick R. Burrell, Bt.	Knepp Paradise 23rd	1010	Sept. 30, 1931	Sept. 6	46	14.6	13.9	14.1	42.6	1 44	32.90	Pale	Good	20.75	.6	21.35	
214	Mrs. H. D. Lewis	Leaton Mince	1045	April 25, 1932	Aug. 26	57	11.4	11.7	11.5	34.6	0 94	30.17	Fair	Poor	9.25	1.7	10.95	
220	Mrs. R. M. Foot	White Hill Monks Flight	956	Dec. 12, 1931	Sept. 14	38	15.8	16.8	16.7	49.3	1 24	42.87	Pale	Good	18.5	—	18.5	
221	Miss B. Cearn	Grundtals Princess Louise	1145	Oct. 9, 1931	July 18	96	11.8	11.0	12.6	35.4	1 44	27.84	Pale	Good	20.75	5.0	26.35	H.C.
225	Brooks (Mistley), Ltd.	Mistley Pear 2nd	980	Nov. 12, 1931	Aug. 8	75	15.3	14.8	12.9	43.0	0 124	56.21	Pale	Poor	12.25	3.5	15.75	

BUTTER TESTS—RED POLLS—Continued.

No. in Catalogue.	Name of Animal.	CHURNING—TIME AND TEMPERATURE					
		Time			Dairy	Temperature °F.	
		Churning began	Churning finished	Duration of Churning			
			Minutes	Degrees	Degrees	Buttermilk when churning finished	
187	Knepp Prudence 7th ...	11 26 a.m.	12 0 noon	34	70	52	56
188	Knepp Prudence 11th ...	11 50 a.m.	12 45 p.m.	55	70	52	61
189	Hallingbury Snowdrop ...	6 23 p.m.	6 53 "	30	68	52	54
190	Heveningham Daring ...	11 38 a.m.	12 12 "	34	70	52	56
191	Weston Peggy ...	11 35 "	12 0 noon	25	68	52	55
192	Weston Bell ...	4 3 p.m.	4 30 p.m.	27	70	52	54
193	White Hill Fair Flirt ...	12 4 "	12 40 "	36	70	52	60
194	White Hill Red Briar ...	4 9 "	4 26 "	17	68	52	54
195	Holton Rainbow 6th ...	12 30 "	12 52 "	22	70	52	57
196	Sanford Witchbird ...	5 42 "	6 9 "	27	68	52	54
197	Kirton Duplication ...	12 20 "	12 42 "	22	70	52	56
198	Conowall Red ...	12 13 "	12 50 "	37	70	52	58
201	White Hill Reckless ...	1 50 "	2 45 "	55	70	52	60
203	White Hill Charming Delight ...	2 18 "	2 50 "	32	68	52	56
204	White Hill Fair Flighty ...	4 7 "	5 9 "	62	70	52	58
205	White Hill Fair Flighty ...	2 12 "	2 55 "	43	70	52	57
206	Kirton Quakers ...	12 8 "	12 38 "	30	70	52	58
207	Kirton Quakers ...	12 20 "	12 50 "	30	68	52	58
208	Capel Gemma 2nd ...	6 25 "	7 5 "	40	68	52	59
210	Mistley Anethyst ...	3 48 "	4 48 "	60	70	52	57
211	Lock Farm ...	12 20 "	12 45 "	25	68	52	56
212	Knepp Cowslip 17th ...	5 30 "	6 0 "	24	70	52	60
213	Knepp Paradise 23rd ...	12 35 "	12 50 "	15	70	52	58
214	Leaton Mince ...	1 41 "	12 50 "	44	70	52	57
220	White Hill Monks Flight ...	12 35 "	12 45 "	20	70	52	58
221	Grundsburgh Princess Louisc	12 26 "	12 45 "	35	70	52	57
225	Mistley Pear 2nd ...	1 46 "	2 20 "	35	70	52	58

BUTTER TESTS—AYRSHIRES.

No. in Catalogue	Exhibitor	Name of Animal	Live Weight lbs.	Date of Birth	Date of last Calf 1934	No. of Days in Milk	Milk Yield				Butter Yield lb ozs	Ratio to lbs. Butter Milk to lbs. viz.	Colour and Quality of Butter		No. of Points for Lactation	Total Number of Points	Awards
							Morn.	Aft.	Even.	Total			Colour	Quality			
233	Capt. W. B. Dronfield	Urioch Brookie 2nd	1261	Mar. 6, 1928	Sept. 11	41	28.7	29.6	29.1	87.4	3 4½	26.77	Good	V. Good	52.25	1	1st Prize
234	M. Cochrane	Ryemuir Clara...	1198	Nov. 12, 1923	Sept. 16	36	23.9	24.2	21.1	69.2	2 11½	25.58	Pale	Fair	43.25	—	H.C.
235	J. N. Drummond	Bargower Silver Bell 5th	1122	Mar. 5, 1924	Sept. 17	35	27.9	25.1	23.8	76.8	2 14½	26.48	V. Good	Good	46.5	—	Reserve
238	W. A. Thomson	Dalpeddar East 1307	1307	Dec. 7, 1926	Sept. 22	30	31.3	27.3	25.3	83.9	2 12½	30.18	Good	Good	44.5	—	H.C.
239	J. F. Godwin	Killoch Brown Buntie 5th	1150	Mar. 20, 1928	Sept. 11	41	24.7	18.6	20.5	63.8	2 1½	30.53	Pale	Good	33.5	1	33.6
240	R. Lohar	Greenless Cherub	1384	Feb. 9, 1926	Sept. 26	26	24.7	23.8	26.7	75.2	2 0	37.00	Good	Good	32.0	—	32.0
243	A. W. Mont-gonerie	Cauldham Moss 2nd	1206	Aug. 12, 1927	Sept. 25	27	20.4	20.6	23.0	64.0	3 0½	21.12	Fair	Good	48.5	—	4th Prize
245	J. Turner	Loaninghead May	1218	April 4, 1927	Sept. 25	27	26.2	25.2	23.7	75.1	3 3½	23.21	Pale	Good	51.75	—	2nd Prize
247	J. Turner	Loaninghead Pansy 2nd	1169	Dec. 8, 1929	Sept. 23	29	22.8	22.2	23.3	68.3	2 11½	25.11	Fair	Good	48.5	—	H.C.
250	J. Baird	Birnacknowe Artful	1120	Mar. 15, 1926	Sept. 18	34	27.1	20.9	28.2	82.2	2 11½	30.22	Fair	Good	48.5	—	H.C.
254	R. Sillars & Son	Ickham Daphne	1286	July 12, 1927	Sept. 18	34	23.8	24.0	24.3	72.1	2 12½	25.94	Fair	Good	44.5	—	H.C.
255	R. Sillars & Son	Ickham Carol	1195	May 13, 1926	Oct. 2	20	23.7	24.0	24.5	72.2	3 2	23.14	Fair	Good	50.0	—	3rd Prize
256	T. H. Stallard	Gerranton Hope 2nd	1328	Jan. 12, 1925	Sept. 16	36	25.6	24.3	23.7	73.6	2 11½	27.06	Good	V. Good	43.5	—	H.C.
257	J. R. P. Hedley	Hightae Heather Bell 9th	1240	Nov. 24, 1927	Sept. 9	43	23.7	24.8	24.1	72.6	1 7	disc.					
260	J. N. Drummond	Bargower Queenie 5th	1152	Oct. 15, 1931	Sept. 30	22	17.2	17.7	17.2	52.1	2 0½	25.48	Good	V. Good	32.75	—	H.C.
261	J. N. Drummond	Bargower Miss Donald 7th	1176	Oct. 10, 1931	Sept. 29	23	20.2	18.5	19.0	57.7	2 12½	20.64	V. Good	Ex.	44.75	—	H.C.
263	J. F. Godwin	Hobland Chorus Girl 7th	1087	Feb. 10, 1932	Sept. 25	27	15.5	15.2	13.2	43.9	1 11½	25.75	Pale	V. Good	27.25	—	H.C.

BUTTER TESTS—AYRSHIRES—Continued.

No. in Catalogue	Exhibitor	Name of Animal	Live Weight lbs.	Date of Birth	Date of last Calf 1934	No. of Days in Milk	Milk Yield				Butter Yield lbs. ozs.	Ratio to lbs. Butter Milk to lbs. viz., lbs.	Colour and Quality of Butter		No. of Points for Butter	No. of Points for Lactation	Total Number of	Awards
							Morn. lbs.	Even. lbs.	Total lbs.	Colour			Quality					
266	J. Turner ...	Loaninghead Lady Nell	1109	Oct. 9, 1931	Sept. 14	38	15.2	14.9	14.2	44.3	1 9	28.40	Pale	V. Good	25.0	—	25.0	H.C.
270	University of Edinburgh	Linnhead Violet 3rd	1107	Nov. 5, 1931	Sept. 13	39	14.9	18.0	18.7	51.6	1 12½	28.75	Pale	V. Good	28.75	—	28.75	H.C.
271	University of Edinburgh	Linnhead May Queen 3rd	1018	Feb. 9, 1932	Sept. 12	40	19.8	18.7	18.9	57.4	2 4	25.51	Pale	V. Good	36.0	—	36.0	H.C.
272	D. Mackay ...	Harleyholm Ivy	1059	Oct. 9, 1931	Sept. 9	43	14.9	15.0	14.7	44.6	1 10½	27.28	Pale	V. Good	26.25	.3	26.55	H.C.
275	A. Murray ...	Kilfillan Parsley	962	Dec. 15, 1931	Sept. 12	40	15.6	12.0	12.3	39.9	1 13½	21.80	Pale	Good	20.25	—	20.25	H.C.
276	R. Sillars & Son	Ickham Daphne 3rd	1154	Sept. 5, 1931	Sept. 17	35	17.4	17.9	17.7	53.0	2 4½	23.25	Pale	V. Good	30.5	—	30.5	H.C.
277	R. Sillars & Son	Ickham Fanny 5th	804	Dec. 14, 1931	Sept. 26	26	13.1	17.9	15.4	46.4	1 8½	30.33	Pale	V. Good	24.5	—	24.5	H.C.
279	J. R. P. Hedley	Cowichan Fleckie	930	Feb. 26, 1932	Oct. 5	17	16.0	15.2	15.6	46.8	1 6½	33.07	Good	Poor	22.75	—	22.75	H.C.
281	J. Cochrane ...	Byreholm Mist	1002	Nov. 1, 1931	Sept. 17	35	15.8	16.4	15.6	47.8	1 14½	25.36	Good	V. Good	30.25	—	30.25	H.C.
282	J. Cochrane ...	Byreholm Milly	1019	Dec. 17, 1931	Sept. 15	37	17.7	17.7	17.5	52.9	1 10½	32.35	Good	Good	26.25	—	26.25	H.C.
284	J. Cochrane ...	Byreholm Annie Simpson	1158	Nov. 19, 1931	Sept. 21	28	20.0	20.1	20.3	60.4	2 8½	24.02	Good	V. Good	40.25	—	40.25	H.C.
285	J. & J. McIntyre	Logan Mains Snap	1062	Nov. 19, 1931	Sept. 29	23	17.2	17.0	16.3	50.5	1 12	28.86	Pale	V. Good	28.0	—	28.0	H.C.
286	J. & J. McIntyre	Logan Mains Snowball 5th	996	Feb. 6, 1932	Oct. 7	15	16.3	15.0	15.6	46.9	2 2½	21.81	Pale	Good	34.5	—	34.5	H.C.
287	Hannah Dairy Research Inst.	Kirkhill Nerissa	939	Jan. 9, 1932	Sept. 9	43	15.8	17.1	14.4	47.3	1 8½	31.22	Pale	Good	24.25	.3	24.55	H.C.

BUTTER TESTS—AYRSHIRES—Continued.

No. in Catalogue.	Name of Animal.	CHURNING—TIME AND TEMPERATURE					Buttermilk when churning finished
		Time		Duration of Churning	Dairy	Cream and Churn	
		Churning began	Churning finished				
				Minutes	Degrees	Degrees	Degrees
293	Urioch Broekie 2nd	2 30 p.m.	2 56 p.m.	26	70	52	55
294	Ryemuir Clara	2 53 "	3 26 "	33	70	52	54
295	Bargower Silver Bell 5th	2 31 "	2 50 "	19	70	52	58
296	Dalpeddar East Wind	2 35 "	3 10 "	35	70	52	54
298	Killoch Brown Buntie 5th	2 10 "	2 43 "	27	70	52	54
299	Greenless Cherub	2 36 "	2 54 "	18	70	52	56
240	Candham Moss 2nd	3 6 "	3 26 "	20	68	52	56
243	Loathinghead May	3 45 "	4 10 "	25	68	52	54
245	Loathinghead Pansy 2nd	2 35 "	2 56 "	19	70	52	58
247	Brin-knowe Artful	2 25 "	2 46 "	19	70	52	57
250	Ickham Daphne	2 42 "	3 14 "	32	70	52	54
254	Ickham Carol	3 33 "	3 50 "	17	68	52	53
255	Gerranton Hope 2nd	1 55 "	2 15 "	20	70	52	54
256	Bargower Queenie 5th	2 6 "	2 30 "	24	70	52	54
290	Bargower Miss Donald 7th	2 25 "	2 46 "	21	70	52	58
293	Holsland Chorus Girl 7th	2 9 "	2 40 "	31	70	52	57
293	Loathinghead Lady Nell	3 30 "	4 23 "	53	70	52	56
266	Loathinghead Violet 3rd	3 7 "	3 20 "	13	70	52	56
270	Limbhead May Queen 3rd	2 20 "	2 54 "	34	70	52	57
271	Harleyholm Ivy 7th	3 10 "	3 41 "	31	70	52	56
272	Kilfillan Parsley	4 3 "	5 25 "	82	68	52	54
275	lekham Daphne 3rd	3 7 "	3 43 "	36	70	52	54
276	lekham Pansy 5th	3 23 "	3 50 "	27	68	52	54
277	Cowichan Fleckie	3 27 "	3 56 "	28	68	52	56
279	Byreholm Mist	2 56 "	3 20 "	24	70	52	56
281	Byreholm Annie Simpson	3 11 "	3 45 "	34	68	52	56
282	Byreholm Milly	6 45 "	7 18 "	33	68	52	56
284	Logan Mams Stup	3 15 "	3 40 "	25	70	52	56
285	Logan Mams Snowball 5th	3 17 "	4 0 "	43	68	52	56
286	Kirkhill Nerissa	3 25 "	3 50 "	25	68	52	54

BUTTER TESTS—GUERNSEYS.

No. in Catalogue	Exhibitor	Name of Animal	Live Weight lbs.	Date of Birth	Date of last Calf 1934	No. of Days in Milk	Milk Yield				Butter Yield lbs. ozs.	Ratio, viz. Butter Milk to lbs. Butter	Colour and Quality of Butter		No. of Points for Butter	No. of Points for Lactation	Total Number of Points	Awards
							Morn. lbs.	Aft. lbs.	Even. lbs.	Total lbs.			Colour	Quality				
288	W. G. Trower ...	Stanstead Rose 60th	987	Mar. 27, 1929	Aug. 25	58	12.3	13.3	12.7	38.3	2 7½	15.60	Ex.	Ex.	39.25	1.8	41.05	4th Prize
289	E. D. Fair- weather	May Boy Daisy of the Blanche	1152	June 6, 1924	June 19	125	18.6	18.8	17.6	55.0	1 12	31.43	Good	Poor	28.0	8.5	36.5	H.C.
290	E. D. Fair- weather	Rex's Primrose of Maison de Bas	1198	Sept. 22, 1927	May	3 172	17.8	16.5	15.2	49.5	1 13½	27.05	Good	Good	29.5	12.0	41.5	3rd Prize
293	R. O. Hambro	Imperial Countess	1090	May 26, 1928	July 26	88	19.4	14.5	18.0	51.9	2 5½	22.13	Good	V. Good	37.75	4.8	42.55	2nd Prize
294	C. Norman ...	Dandy Jess' Pride 6th	902	Jan. 22, 1929	Sept. 13	39	19.3	15.6	17.5	52.4	2 1½	25.25	V. Good	Ex.	33.25	—	33.25	H.C.
296	N. R. Steel ...	Princess of the Gree	968	June 23, 1927	Aug. 31	52	19.4	17.8	20.0	57.2	2 1½	27.37	V. Good	V. Good	33.5	1.2	34.7	H.C.
297	C. C. Empson ...	Merton Queen of the Fairies	967	Jan. 7, 1926	July 14	100	12.6	15.1	15.9	43.6	1 14½	22.77	Good	V. Good	30.75	6.0	36.75	H.C.
298	C. Holmes ...	Dairymaid of Riduna	1146	Jan. 17, 1930	June 24	120	15.3	14.6	15.8	45.7	2 3½	20.50	V. Good	Ex.	35.5	8.0	43.5	1st Prize
301	H. H. Scott ...	Hartwell Spring	1060	April 1, 1930	Aug. 30	53	13.7	12.4	14.6	40.7	1 12½	22.87	Pale	Good	28.5	1.3	29.8	H.C.
302	Capt. H. J. Pibrow	Charlotte of Sons' Les Houques	936	Oct. 10, 1930	July 14	100	18.5	17.2	19.5	55.2	2 2½	25.85	Fair	V. Good	34.25	6.0	40.25	Reserve
305	Mrs. F. Sains- bury	Rhums Garnet ...	1157	Sept. 12, 1930	July 20	94	11.7	12.8	10.5	35.0	1 5½	26.62	V. Good	Ex.	21.25	5.4	26.65	H.C.
310	C. Holmes ...	Dairy Queen 3rd of Clover Top	882	June 25, 1932	Aug. 7	76	16.0	12.3	14.6	42.9	1 13½	23.64	Ex.	Ex.	29.25	3.6	32.85	H.C.
311	H. A. V. Dyson	Primrose Politi- more of Payhay	952	June 13, 1932	Sept. 2	50	15.7	15.5	16.6	47.8	2 1½	23.04	Good	V. Good	33.25	1.0	34.25	H.C.
312	H. A. V. Dyson	Valentines Queen of Payhay	896	April 20, 1932	June 7	137	13.3	12.3	12.3	37.9	1 7½	25.52	Good	V. Good	23.75	9.7	33.45	H.C.
317	Exors of the late Sir Louis Baron	Hewton Lodge Dorine 4th	961	Feb. 21, 1932	June 11	133	6.7	16.5	14.6	37.8	1 8½	24.95	Good	V. Good	24.25	9.3	33.55	H.C.
318	Exors. of the late Sir Louis Baron	Bella's Core 4th of les Jetteries	971	Mar. 25, 1932	July 10	104	15.6	17.8	16.8	50.2	1 13½	27.66	Good	Good	29.25	6.4	35.65	H.C.

BUTTER TESTS—GUERNSEYS—Continued.

No. in Catalogue.	Name of Animal.	CHURNING—TIME AND TEMPERATURE				
		Time		Temperature °F.		
		Churning began	Churning finished	Duration of Churning Minutes	Dairy Degrees	Cream and Churn Degrees
288	Stanstead Rose 60th ...	3 37 p.m.	4 10 p.m.	33	68	56
289	May Boy Daisy of the Blanche	3 5 "	3 35 "	30	70	58
290	Rex's Primrose of Maison de Bas	3 35 "	4 4 "	29	68	57
293	Imperial Countess	3 35 "	4 4 "	25	68	52
294	Dandy Jess' Pride 60th	3 50 "	7 0 "	70	68	57
296	Princess of the Grace	3 15 "	3 44 "	29	70	56
297	Merton Queen of the Fairies	3 16 "	3 48 "	32	70	56
298	Dairymaid of Ridma	3 47 "	4 14 "	24	68	55
301	Hartwell Spring	3 40 "	4 7 "	20	68	60
302	Charlotte of Sons Les Houques	4 0 "	6 16 "	36	68	54
305	Blunt's Garnet	4 15 "	4 31 "	31	68	54
310	Dairy Queen 3rd of Clover Top	4 15 "	4 31 "	16	68	55
311	Primrose Polimore of Payhay	3 55 "	5 38 "	23	68	54
312	Valentines Queen of Payhay	4 23 "	4 24 "	29	68	54
317	Hewton Lodge Dorine 4th	4 19 "	5 20 "	57	68	58
318	Bella's Cora 4th of Les Jeteries	4 19 "	4 39 "	20	68	56

BUTTER TESTS—JERSEYS.

No. in Catalogue	Exhibitor	Name of Animal	Live Weight lbs.	Date of Birth	Date of last Calf 1934	No. of Days in Milk	Milk Yield				Ratio to lbs. Butter Milk to lbs. Butter	Colour and Quality of Butter		No. of Points for Butter	No. of Points for Lactation	Total Number of Points	Awards
							Morn.	Aft.	Even.	Total		Colour	Quality				
							lbs.	lbs.	lbs.	lbs.	lbs. ozs.						
320	Ovaltine Dairy Farm	Playmate of Oaklands	902	May 17, 1929	June 6 1938		15.2	14.5	15.0	44.7	2 31	V.Good	Good	33.25	9.8	45.05	H.C.
322	W. E. Press	Margawse	914	Aug. 2, 1926	May 23 1932		14.3	12.1	12.5	38.9	2 24	Pale	Good	34.25	11.2	45.45	H.C.
324	H. C. Pelly	Primrose 2nd	898	May 9, 1923	June 26 1918		15.3	16.6	15.8	47.7	2 10 1/2	V.Good	Ex.	42.5	7.8	50.3	3rd Prize
325	Mrs. A. E. Phillips	Dalby Regal	910	Aug. 2, 1928	Aug. 18 65		15.0	14.7	15.6	45.3	2 41	Good	V.Good	30.25	2.5	38.75	H.C.
326	Sir J. B. Lloyd	Hamletta's Meg	1127	Mar. 24, 1927	Aug. 25 58		17.6	18.3	18.1	54.0	2 5	Good	Good	37.0	1.8	38.8	H.C.
328	Mrs. G. J. Caddley	Eastwood	938	June 15, 1927	Aug. 4 79		15.3	16.3	14.9	46.5	2 9 1/2	Good	Ex.	41.25	3.9	45.15	H.C.
329	Mrs. Evelyn	Grosnez Sally	901	Jan. 20, 1927	July 8 106		12.8	13.5	14.5	40.8	1 13 1/2	V.Good	V.Good	29.75	6.6	36.35	H.C.
331	J. W. McCallum	Sonata	937	Nov. 11, 1925	Aug. 10 73		22.7	19.0	18.7	60.4	3 31 1/2	Ex.	Ex.	51.25	3.3	54.55	1st Prize
332	Mrs. R. M. Foot	Surville Cam-panile	893	Dec. 18, 1927	Sept. 4 48		15.1	17.9	16.5	49.5	2 53 1/2	Pale	V.Good	37.75	.8	38.55	H.C.
335	S. S. Lockwood	Cowslip 5th	952	Dec. 22, 1927	Apr. 30 175		16.9	17.6	17.8	52.3	2 8	V.Good	V.Good	40.0	12.0	52.0	2nd Prize
339	G. McWilliam	Bolhayes May's Sunrise	826	Nov. 15, 1928	Feb. 13 252		15.3	15.2	15.7	46.2	2 34	Pale	V.Good	35.5	12.0	47.5	H.C.
340	Ovaltine Dairy Farm	Primrose	958	Feb. 9, 1930	June 8 136		11.1	10.8	11.3	33.2	1 10 1/2	V.Good	Good	26.5	9.6	36.1	H.C.
342	H. C. Pelly	Fontaine's Royal Princess	808	Jan. 1, 1930	Aug. 23 60		16.7	18.6	18.3	53.6	2 14	V.Good	V.Good	46.0	2.0	48.0	Reserve
344	Mrs. A. E. Phillips	Jeanne de Lecq	925	Mar. 10, 1930	Aug. 8 75		13.5	13.0	14.6	41.1	1 15 1/2	Pale	Good	31.5	3.5	35.0	H.C.
345	Sir J. B. Lloyd	Foxbury	874	June 11, 1931	Aug. 14 69		12.8	16.3	19.8	48.9	1 12 1/2	Good	Good	28.25	2.9	31.15	H.C.
347	J. W. McCallum	Valentine 2nd Highsteeds	896	April 12, 1931	Aug. 10 73		10.6	12.3	11.3	34.2	1 10 1/2	Good	Good	26.75	3.3	30.05	H.C.
351	W. B. Tobey	Berceuse	827	Oct. 4, 1930	Oct. 7 15		14.9	16.3	16.1	47.3	2 6 1/2	Good	Good	38.75	—	38.75	H.C.

BUTTER TESTS—JERSEYS—Continued.

No. in Catalogue	Exhibitor	Name of Animal	Live Weight lbs.	Date of Birth	Date of last Calf 1934	No. of Days in Milk	Milk Yield				Butter Yield lb. ozs.	Ratio, viz., lbs. milk to lbs. butter	Colour and Quality of Butter		No. of Points for Butter	No. of Points for Lactation	Total Number of	Award
							Morn. lbs.	Aft. lbs.	Even. lbs.	Total lbs.			Colour	Quality				
352	W. B. Tobey ...	Willing Charity	831	May 11, 1931	Sept. 7	45	12.3	12.1	11.1	35.5	2	0 $\frac{1}{2}$ 17.49	Pale	V. Good	32.5	.5	33.0	H.C.
353	W. A. White ...	La Valence Oculata	802	Feb. 19, 1930	June 27	117	14.8	14.6	15.9	45.3	1	8 $\frac{1}{2}$ 20.61	Ex.	V. Good	24.5	7.7	32.2	H.C.
354	Mrs. R. M. Foot	White Hill Happy May	852	Mar. 21, 1930	Sept. 17	35	19.4	18.0	18.7	56.1	2	7 $\frac{1}{2}$ 22.85	Pale	Good	30.25	—	30.25	H.C.
355	Mrs. R. M. Foot	White Hill Happy Dean- villaise	802	Sept. 19, 1929	Aug. 12	71	13.6	14.5	15.4	43.5	2	0 $\frac{1}{2}$ 21.43	Pale	Good	32.5	3.1	35.6	H.C.
356	Sir H. Mackintosh	Golden Bessie ...	900	May 11, 1931	May 24	151	15.9	16.2	15.5	47.6	2	22.45	V. Good	V. Good	34.0	11.1	45.1	H.C.
358	M. F. North ...	Wolton Bella	936	June 25, 1930	July 4	110	14.4	12.9	15.3	42.6	2	0 $\frac{1}{2}$ 20.83	Fair	V. Good	32.75	7.0	39.75	H.C.
360	G. McWilliam ...	Donna Ballhayes Jolly Bart	860	Sept. 13, 1929	April 11	193	15.8	15.9	15.4	47.1	2	3 $\frac{1}{2}$ 21.36	V. Good	Ex.	35.25	12.0	47.25	H.C.
361	E. A. Strauss, J.P., M.P.	Lady Brenda ...	886	April 22, 1930	July 12	102	15.2	17.5	16.0	48.7	2	10 18.59	Good	Good	42.0	6.2	48.2	4th Prize

BUTTER TESTS—JERSEYS—Continued.

No. in Catalogue.	Name of Animal.	CHURNING—TIME AND TEMPERATURE					
		Time		Duration of Churning	Temperature °F.		
		Churning began	Churning finished		Dairy	Cream and Churn	Buttermilk when churning finished
				Minutes	Degrees	Degrees	Degrees
320	Playmate of Oaklands	5 30 p.m.	6 14 p.m.	44	68	52	56
322	Margawse	5 38 "	6 18 "	40	68	52	56
324	Prinrose 2nd	5 55 "	6 28 "	33	68	52	56
325	Dalby Regal Meg	4 25 "	5 5 "	40	68	52	56
326	Ranietta's Mistress	4 50 "	5 35 "	45	68	52	54
328	Eastwood Chandler	6 17 "	6 50 "	33	68	52	56
329	Grosnez Sally	5 52 "	6 20 "	28	68	52	54
331	Sonata	6 20 "	7 3 "	43	68	52	56
332	Surville Campanile	6 24 "	7 25 "	61	68	52	58
335	Cowslip 6th	6 34 "	7 12 "	38	68	52	56
339	Bollhayes May's Sunrise	6 46 "	7 8 "	22	68	52	56
340	Prinrose Mercedes	6 13 "	6 35 "	22	68	52	55
342	Fontaine's Royal Princess	6 35 "	7 20 "	45	68	55	55
344	Jeanne de Lecq	6 42 "	7 7 "	25	68	52	56
345	Foxbury Valentine 2nd	6 8 "	6 33 "	25	68	52	54
347	Higsteats Berceuse	6 20 "	6 55 "	35	68	52	56
351	Wrath	6 26 "	6 38 "	12	68	52	52
352	Willing Charity	5 30 "	6 3 "	33	68	52	56
353	La Valeuse Oculata	6 34 "	6 58 "	24	68	52	54
354	White Hill Happy May	6 6 "	6 22 "	16	68	52	54
355	White Hill Happy Deauville	5 55 "	6 23 "	28	68	52	55
356	Golden Bessie	6 30 "	7 0 "	30	68	52	56
358	Wotton Bella Donna	5 32 "	6 12 "	40	68	52	54
360	Bollhayes Jolly Bart	6 18 "	7 5 "	47	68	52	55
361	Lady Brenda	5 58 "	6 17 "	19	68	52	56

BUTTER TESTS—OTHER BREEDS.

No. in Catalogue	Exhibitor	Name of Animal	Live Weight lbs.	Date of Birth	Date of last Calf 1934	% of Days in Milk	Milk Yield				Butter Yield lbs ozs	Ratio, viz., lbs. Milk to lbs. Butter	Colour and Quality of Butter		No. of Points for Butter	No. of Points for Lactation	Total Number of Points	Awards
							Morn. lbs.	Aft. lbs.	Even. lbs.	Total lbs.			Colour	Quality				
182	DEVON. A. J. P. Baker	Woodrow Gentle	1459	Mar. 1, 1929	Aug. 27	56	15.0	13.0	11.4	40.0	1 11	23.67	Good	Good	27.0	1.6	28.6	Prize of £3
183	A. J. P. Baker	Woodrow Fancy	1442	Dec. 14, 1929	Aug. 9	74	16.3	15.9	17.6	49.8	2 31	22.43	Good	Good	35.50	3.4	38.9	Reserve
184	H. G. Mayo	Corton Comet	1638	July 20, 1928	Aug. 16	67	22.0	21.2	16.5	59.7	2 14	28.36	Good	Good	33.75	2.7	36.45	
185	H. G. Mayo	Corton Orange	1559	Jan. 27, 1928	July 6	108	8.6	9.5	8.0	26.1	15 1	27.33	Good	Good	15.25	6.8	22.05	
227	WELSH BLACK. N. Vosper	Llanychan Tulip	1180	Mar. 2, 1930	Aug. 16	67	9.6	10.1	9.8	29.5	15 1	29.95	Pale	V. Good	15.75	2.7	18.45	No Award
228	Hon. Lady Shelley-Rolls	Dream	1314	Mar. 26, 1929	Sept. 17	35	19.7	19.5	19.6	58.8	1 12 1	32.76	Good	Good	28.75	—	28.75	
229	Hon. Lady Shelley-Rolls	Topsy 4th	1248	Nov. 6, 1922	Sept. 14	38	21.3	21.6	21.0	63.9	1 21 1	56.30	Good	Fair	18.25	—	18.25	
375	KERRY. J. W. Towler	Ard Caen Rose	848	Sept. 23, 1929	Aug. 8	75	17.0	16.6	17.4	51.0	2 61	21.38	Pale	Good	38.25	3.5	41.75	Reserve
376	J. W. Towler	Wadlands Flash	796	Oct. 7, 1930	Sept. 28	24	16.3	12.6	14.1	43.0	2 14	20.72	Fair	Good	33.25	—	33.25	H.C.
377	J. W. Towler	Wadlands Fly	762	Oct. 29, 1930	Aug. 5	78	13.2	11.2	12.1	36.5	1 94	23.17	Fair	Good	25.25	3.8	29.05	H.C.
381	H. E. Mitchell	Ard Caen Dove	1078	May 11, 1922	Oct. 8	14	16.3	17.0	15.8	49.1	2 12 1	17.66	Good	V. Good	44.5	—	44.5	Prize of £2
382	H. E. Mitchell	Cuckfield Pearl	960	May 20, 1925	May 22	163	15.0	13.1	13.8	41.9	2 24	19.63	Good	V. Good	34.25	11.3	45.55	Prize of £3.
390	DEXTER. Lady Loder	Grinstead	787	Dec. 19, 1925	May 18	167	12.6	12.1	11.3	36.0	1 61	25.44	Good	Good	22.75	11.7	34.45	Prize of £3.
391	Lady Loder	Nightingale 3rd	668	June 12, 1928	July 24	90	14.7	11.9	14.1	40.7	1 12 1	22.87	Good	Good	28.5	5.0	33.5	Reserve
392	Mrs. E. Johnson	Grinstead Hawk 5th	871	Jan. 30, 1926	Apr. 23	181	7.6	7.6	7.8	23.0	11 1	31.29	Pale	Fair	11.75	12.0	23.75	

Mary

BUTTER TESTS—OTHER BREEDS—Continued.

No. in Catalogue.		Name of Animal.	CHURNING—TIME AND TEMPERATURE								
			Time			Temperature °F.		Buttermilk when churning finished Degrees			
			Churning began	Churning finished	Duration of Churning Minutes	Dairy Degrees	Cream and Churn Degrees				
182	183	184	185	DEVON.							
				Woodrow Gentle 2nd ...	...	10 12 a.m.	11 0 a.m.	48	70	52	56
				Woodrow Fancy ...	...	10 16 "	10 52 "	36	70	52	57
				Corton Comet ...	...	12 12 p.m.	12 54 p.m.	42	70	52	58
				Corton Orange ...	...	5 20 "	5 45 "	25	68	52	58
227	228	229	WELSH BLACK.								
				Llanychan Tulip ...	...	9 57 a.m.	10 40 a.m.	43	70	52	57
				Dream ...	...	9 17 "	9 40 "	23	68	52	56
				Topsy 4th ...	...	9 40 "	10 2 "	22	70	52	57
375	376	377	378	KERRY.							
				Ard Caein Rose ...	...	5 46 p.m.	6 9 p.m.	23	68	52	54
				Wadlands Flash Witch 3rd ...	...	6 10 "	6 24 "	14	68	52	54
				Wadlands Fly ...	...	6 10 "	6 55 "	30	68	52	56
				Ard Caein Dove ...	...	5 45 "	6 8 "	23	68	52	52
				Cuckfield Pearl ...	...	4 27 "	5 0 "	33	68	52	56
390	391	392	DEXTER.								
				Grinstead Nightingale 3rd ...	...	5 32 "	6 8 "	36	68	52	56
				Grinstead Hawk 5th ...	...	5 37 "	6 12 "	36	68	52	54
				Ashtonhayes Mary ...	...	4 15 "	4 45 "	30	68	52	56

POULTRY SECTION—DAIRY SHOW, 1934

By W. J. GOLDING.

The 1934 Exhibition will be well remembered, if for nothing else, for the exceptionally fine weather, that prevailed during the week. The show opened in a blaze of sunshine; we have been favoured the past few years with nice weather, but never was the light better during the judging than this year; this makes all the difference, and expedites the judge's task considerably.

Of all our shows, none can come up to this annual event in the matter of interest which it creates; from every part of the country, exhibitors and those interested in the poultry industry generally, flock to London for the Dairy Show. It was a great show with many encouraging and reassuring factors, and if we are to judge from the ever increasing demand for stand space for appliances, and the volume of business done, the Poultry Industry is prepared to respond to any reasonable measures for progress and expansion.

One face was sadly missed, that of the late Mr. R. Kirk, our head Steward, who has so ably carried out his duties in this section for well over 30 years; his place however was admirably filled by Mr. J. H. Brown, quite a new recruit on the B.D.F.A. Show Staff, who proved himself a capable and courteous official, backed up by the usual band of stewards, the arrangements worked smoothly and uncommonly well.

The entry taken collectively mustered in numbers slightly in excess of that of 1933, and the classes on the whole were exceptionally even, and very few cancellations were made. It was pleasing to note that many of the older breeds, more than held their own.

THE AUCTION SALE.

The sale of the exhibits took place at the usual time on the second day, and although perhaps one of the biggest crowds ever seen round the rostrum, business was not so brisk as in former years. No sensational prices were reached, but a large number of birds, especially in the Selling Classes, changed hands, and the trade generally, must be considered fairly satisfactory.

THE SUPREME CHAMPIONSHIP.

Judging for "The Isherwood Perpetual Challenge Trophy" was entrusted to Messrs. A. H. Fox-Brockbank, G. W. Barker and W. W. Broomhead, and resulted in this much coveted prize being awarded to Mr. J. Y. Wheatley's stately Emden Gander, the runner-

up being Mr. A. Snelgrove's winning Black Orpington pullet. In the Utility Section, after a very hard tussle amongst the Judges, the Morrison Trophy was awarded to Col. Humphrey Watts' White Wyandotte Cockerel.

DEAD POULTRY AND EGGS.

The entries in both numbers and quality were quite a record for this section, and staged as usual in the New Berners Hall; in the words of the Judge "it would be an advantage, if the exhibits could be shown in a better light." Unfortunately the staging of the exhibits just missed the top light and so arranged that the light on one side was much better than the other; it seems a pity such an excellent display should have this disadvantage. The Judge I consider very rightly favoured youth, grain and texture of flesh all the way through, and quality counted in preference to mere weight. My criticism chiefly with Mr. Marsh is his withholding of so many prizes in the various classes, this is not very encouraging to exhibitors, and possibly may affect entries another year. Several competitors did not comply with the regulations, regards tying up their exhibits and were passed in consequence. Special mention must be made of the classes for Market Packs, both in entries and quality they were outstanding, and proved that producers are taking a keen interest in what is required by the market salesman. The Gold Medal went to Mr. A. J. Falkenstein for his wonderful pair of Indian game—Sussex Cockerels, an outstanding pair of exceptional merit, and they well deserved this distinction. The entries for New Laid Eggs, shown on plates were slightly in advance in numbers to those exhibited in recent years and Mr. Carey, the Judge, considers there has been a great advance in quality and excellence in most of the exhibits. The colonial eggs were of a very high standard in the opinion of the Judge.

LIVE POULTRY.

Dorkings.—Unfortunately the classification starts with two cancelled classes for *Dark Dorkings*, this is to be much regretted and exhibits of this grand old variety must take notice; the *Silvers* contained two good classes for quality and the Medal went to the winning cockerel, exhibited by Mr. A. J. Major; the two classes for *Any Other Colour* also had to be cancelled and only two classes standing out of six scheduled makes bad reading for the Dorking breed.

Brahmas numerically were most disappointing and nothing outstanding in quality, the Bronze Medal was secured by the Light cockerel shown by Mrs. E. Copping.

Cochins.—The *Buff* classes contained only ten exhibits in the two classes, but the two *Any Other Colour* classes were better filled. Again quality, and especially condition were lacking in the exhibits. Mr. S. J. Ballard's White cockerel was awarded the Medal.

Wyandottes.—The entry was a slight increase on the previous year, but compared with that seen ten or twelve years ago, makes but a modest show. *Gold or Silver Laced*, the three classes provided contained birds of good quality, especially the Silver pullets, the winner having that quality of lacing so much desired. *Whites*, two well filled classes and generally speaking were of good type and excellent colour, the winning cockerel exhibited by Mr. R. Anthony well deserved the Medal, for the best Wyandotte. *Blacks* contained about an average entry and seemed better in colour than in type. *Columbians* mustered twenty-seven exhibits in the two classes provided, and were rather more even in quality than recent years, there being quite a few good useful pullets. *Partridges* to quote the Judge, the cockerels contained a very good class, first and second being outstanding; grand colour and well developed, and shown extra fit; the winning pullet exhibited by Mr. John Wharton was also an outstanding Exhibit.

Sussex.—The classification was somewhat curtailed this year and resulted in a good average entry in those classes scheduled. *Lights* predominated as usual, in being the best filled classes, forty-eight entries in the two classes must be considered good, and Mr. H. Underwood is to be congratulated on securing first and second prizes in both cockerels and pullets. *Red or White*, these colours were amalgamated for the first time and contained an average of sixteen birds per class, mostly whites; the winning cockerel of Mr. Carson's secured the Cup for the best white, and likewise the Cup for the best Red went to Mr. Hibb's winning pullet. *Speckleds* contained extra good quality and were also nicely filled classes, and in the opinion of the Judge were the most satisfactory classes in this section, especially the cockerels, the winner, exhibited by Sir Gomer Berry easily secured the Cup. *Any other Colour* which included Browns and Buffs were but moderate classes for quality. Mr. John Howard won both classes with the Brown variety and his cockerel secured the Hardy Cup. The Silver Medal for the best Sussex deservedly went to the winning Light pullet of Mr. Underwood's.

Orpingtons.—The display generally was disappointing, not only had both classes for whites to be cancelled, on account of lack of entries, but the class for Black Cockerels shared a similar fate. In the opinion of the Judge, however, the quality of the exhibits was decidedly high and the Black pullet which gained the Association's Silver Medal for best Orpington had the honour of being placed reserve for the Supreme Championship. *Blacks*, as before mentioned, only the pullet class stood, and contained but nine entries at that, but the winner was a magnificent specimen and a credit to her breeder. *Bufs* with an average of thirteen per class were better, and the quality generally was very good. The Cup for the best Buff

Orpington was awarded to Mr. Watkin Warner's pullet. *Blues* came well up to expectations regarding quality and contained an average of ten per class. The winning pullet of Mr. J. D. Kay's secured the Cup for the best in the variety.

Croad Langshans were but average classes both in numbers and quality; it is hard to understand that such a good winter layer does not attract more breeders. The pullet exhibited by Mr. S. Hancock was awarded the medal.

Plymouth Rocks.—In the Judge's opinion the quality generally of the exhibits was above the average, and he was particularly impressed by the apparent useful qualities which are to-day being bred into even the finest exhibition stock. The *Barred* classes were quite up to the average in both quality and numbers and the cockerel exhibited by Mr. Hirst was an outstanding winner and well deserved the medal for the best Rock. *Bufs* were two good classes numerically but I have seen better quality, and apart from the winners nothing outstanding. *Any other colour* were but moderately filled classes but the quality of the winning White cockerel deserves special mention.

Faverolles.—Four classes were again allotted this breed, but it is a pity more breeders cannot be induced to take up this excellent table fowl; the winning cockerel exhibited by Mr. Biddlecomb excelled in type and colour, had good beard and muff and plenty of size and easily secured the Medal.

Barnevelders contained five well filled classes, particularly the double laced, quality generally was up to the average and the section made quite a good display. The double laced cockerel of Mr. W. Foote's comfortably won his class and annexed the Medal.

Anconas.—Forty entries in the two classes must be considered satisfactory, and on the whole were a very good collection; several of the cockerels however showed weakness in having a crooked back and in a few cases a crooked breast; serious faults such as these, breeders should take particular notice of; the pullets were better in this respect, and the Medal went to the winner exhibited by Messrs. John Gott & Son.

Campines.—This useful breed had a double figure average in the two classes provided, but it is a pity not more breeders are attracted by its egg laying qualities.

Bresse had but moderate entries and quality about up to the average.

Minorcas.—Cockerels were three better than in 1933, but the pullet class was the same with a level dozen. Quality was very level

throughout and the Medal went to the excellent pullet exhibited by Mr. Dando; she was a real gem, and one of the best seen out for some time.

Leghorns mustered a bigger entry than usual and made quite a representative display; the *Whites* especially turning up in good force, and no doubt getting nearer the type that is required to-day; next to the whites came the *Browns* and these classes contained some extra good exhibits, several not quite at their best but nevertheless the quality was there. *Blacks* were nice classes both in quality and numbers, the winning pullet being much admired. *Buff*s averaged ten per class and seem to be on the up grade: as layers, they are equal to any of the other variety of Leghorn and a most fascinating breed to take up: a distinct improvement in colour and size could be noted. *Any other Colour* had but moderate entries, but contained various colours of real merit. The Medal for the best Leghorn went to the White cockerel, exhibited by Mr. Jas. Weir; he was beautifully shown and a popular winner.

Rhode Island Reds.—This popular breed again supplied the largest classes in the Show, although not quite the numbers we have seen previously; the single combs still lead for popularity. Quality throughout was of a high standard, all were on the deep rich side, and an improvement in size could be noted. The Silver Medal went to the winning single comb cockerel exhibited by Messrs. W. R. Abbey & Son, a rare chicken, grand shape and size and in beautiful bloom.

Indian Game.—The two classes were well handled by that veteran Judge Mr. Firth; entries came up fairly well, but we have seen larger numbers exhibited here; breeders have reached the limit in coarseness of bone and width of back, if fertility, and popularity in this breed is to be maintained. The Medal winning cockerel shown by Mr. Jonas, was a typical Indian, in every sense of the word.

Old English Game.—These classes again were exceptionally well filled, and many colours were on view; as a table fowl, this breed is hard to beat, quality of meat and smallness of offal make it an excellent variety, either pure or crossed; as usual some extra fit birds were staged, and rightly in his awards the judge went for condition, with that particular stance so much desired in the game fowl. The Association's Silver Medal was awarded Mr. R. H. Crompton's Brown Red pullet.

Any Other Distinct Variety.—These classes are usually interesting ones, for as a rule any new breed makes its first appearance in

such company, but with the exception of a North Holland blue cockerel, nothing in the way of a new breed was staged. Mr. R. Fletcher Hearnshaw secured the Medal, with a Scots Grey.

THE MATED TRIOS.

The three classes for breeding pens all stood this year and made quite a pleasing display. They are always an attraction, and some well matched trios were on view, and competition was very keen, and in several instances quite a matter of choice which should get the preference; however the awards were well received. The winning pen of Buff Orpingtons, exhibited by me, were awarded the Medal for the best breeding pen, with Mr. H. Whitley's Blue Cochins reserve.

SELLING PRICES.

With an entry of 263 exhibits, this made a most important section, and quite a show in itself, and exhibitors realise to-day, more than ever, what a real good specimen it requires to win, and one has to send exhibits worth considerably more than their catalogue price £3 3s. Od., and the subsequent auction proved this by many of the birds making enhanced prizes yet many real good bargains were made.

DUCKS GEESE AND TURKEYS.

With the exception of the cancelling of the Rouen classes and Buff Orpington Drakes the whole of the Waterfowl classes stood, and a splendid show they made and were well handled by Mr. A. H. Fox-Brockbank; a great deal of enthusiasm was shown in this section by exhibitors as well as interested visitors. The Aylesbury classes were particularly strong as regards quality and it was the Aylesbury Drake exhibited by Messrs. J. Huntley & Son that secured the Medal.

Geese.—Two good classes were on view and seldom has such quality been seen. The winning Toulouse gander exhibited by Mr. Harold Corrie was an outstanding winner in his class; although the young Emden gander exhibited by Mr. Wheatley just managed to secure the Medal; immense size, very wide, yet compact in body, pure in his colour, feathering as tight as wax, and being beautifully shown in the bargain, deserved him the championship.

Turkeys.—Even excelled the record entry received last year, and the quality of the birds, especially the Bronze, was much in evidence, the Medal winning Stag, exhibited by Mr. E. P. Wollatt, was a very fine youngster indeed, and shown in wonderful fettle.

UTILITY POULTRY.

Compared with the other Classic shows, the Dairy always stands well ahead in this section, both in numbers and keenness of Competition, and this year's event was equal in every respect. *Rhode Island Red* pullets drew an entry of fifty-three, and a good level lot they were, whilst *White Wyandotte* pullets with thirty-four ran them close, and then came the *Sussex* and *Welsummers* both particularly strong classes, altogether a brave show. Col. Humphrey Watts was awarded, after a hard fight, the Morrison Trophy for the best in the section, with his *White Wyandotte* cockerel.

BANTAMS.

Modern Game.—The entry was slightly up on the previous year, and on the whole quality was of a very high order; *Black Reds* as usual were the best filled classes, but taken collectively perhaps were not quite the high quality seen the past few years. *Piles* on the other hand were extra good in this respect. Dr. H. Y. Mansfield secured the Medal with his winning *Brown Red*.

Old English Game were quite up to the average in entries and quality generally was very good. The *Black Red* male, exhibited by Captain J. S. Thompson deservedly won the Medal. *The Variety* classes were a better entry than seen for some years past, and made a most attractive display. *Sebrights* were particularly good classes, especially the *Silvers*. *Partridge Wyandottes* were an improved entry and the *Rhode Island Reds* seem to be almost as popular as the big ones. *Indian Game* also were two well filled classes, and contained exhibits of a very high order, and the Silver Medal for the best variety Bantam was found in this breed, Mr. Jas. Johnson's cock being the winner. The *Selling Classes* had a fair average entry and contained some good birds.

Concluding this report may I again be permitted to emphasize the importance of all poultry members of the B.D.F.A. doing their utmost to stimulate increased membership of the Association; the advantages are many, and the moderate annual subscription required is amply repaid on becoming a member. Mr. Fred. J. Bull, the Secretary at 28, Russell Square, London, W.C.1, will gladly forward forms for membership.

PIGEON SECTION—DAIRY SHOW, 1934

By W. S. BROCKLEHURST, J.P.

The Fifty-sixth Annual Show of the British Dairy Farmers' Association was held on October 23rd, 24th, 25th and 26th, 1934, at the Agricultural Hall, Islington, London. The weather was again extraordinarily fine for the time of the year, with the result that an excellent light prevailed during the whole time of judging, which made the judges' task a much easier one in placing exhibits in a more correct position of merit, especially when colour has to be considered, which is the case with so many breeds to-day.

The attendance was greater than at the previous Show; and the gate well above last year's, which is very surprising and most encouraging after hearing the reports of other Agricultural Shows generally about the country. The popularity of the Dairy Show is still growing and increasing considerably amongst fanciers and public alike. Though the entries in the Poultry and Pigeon sections were slightly down, the quality of the exhibits showed improvement, and competition is continually getting keener, resulting in a great display in the Galleries, to which the public throng each day during the time the Show is open. The Committee only regret that it has not the room to display both Poultry and Pigeons in a better way for the public to see them properly and to greater advantage, but it does the best it can with the space available, and hopes both exhibitors and public will not find too much fault with the staging of the birds.

In the Pigeon Section this year there were 2,471 entries, as compared with 2,611 in 1933, 2,396 in 1932, and 2,616 in 1931. The quality was better than in 1933, and was well maintained throughout each breed, as will be seen from the reports of the different breeds exhibited. This was the opinion expressed by many fanciers who attended the Show. It is said by some fanciers that sawdust in the pens the first day of the Show would be an advantage to the cleanliness of the birds; others object, more especially the judges, mainly because the sawdust is blown out of the pens over them and their Stewards. I have been asked to give it a trial next year, which I am sure my Committee will agree to; as anything which adds to the comfort and well being of the exhibits they are only too pleased to try and do.

The winners of the British Dairy Farmers' Association's Trophies and Gold Medals were a wonderful lot of pigeons and were a great credit to their respective breeders and owners, who are to be

congratulated. Mr. J. H. Smith of Southport, Lancs., kindly acted as the judge of these Trophies, and had a hard task to select the winners from the wonderful lot of nominated birds of each breed put before him for his final choice. The winners are as follows :—

The Association's Gold Medal for best Pigeon in Show, bred in 1934, was awarded to Pen 168, Class 19, Dr. C. H. Tattersall's Silver Dragoon Hen, a beautiful pigeon of correct type, quality and colour. Reserve was Messrs. W. S. & R. W. Brocklehurst's Black Gazzi Cock, the Esquilant Cup winner was Pen 314, Class 35.

The Jones Memorial Trophy for best Adult Pigeon in the Show was awarded to Pen 927, Class 93, Mr. W. B. Lobb's Turbit, a very fine pigeon and well shown. Reserve Pen 2141, Class 212, Mr. J. B. Cooper's Carrier Cock.

The Esquilant Challenge Trophy. The competition this year was for best in section 6, bred in the current year, and the following varieties competed :—Modenas, Oriental Frills, All Variety Pigeon Classes, Flying Tipplers, Antwerp Smerles, Runts and Any Other Variety not classified. The winner being Messrs. W. S. and R. W. Brocklehurst's young Black Gazzi Cock, Pen 314, Class 35, also reserve for Gold Medal for best young bird of the year. The Reserve Pen 1436, Class 146 Dr. J. S. Peebles' Fairy Swallow.

The Fulton Challenge Trophy for best young bird bred in the current year in Section 3 and varieties competing this year were :—Barbs, Jacobins, Carrier, and Fantails. The winner being Mr. F. H. Jarvis' White Fantail Hen, Pen 2380, Class 243, and reserve Mr. J. Reeve's Jacobin Cock, Pen 1843, Class 180.

This being the second year of the awarding of the N.P.A. Challenge Certificates of the Dairy Show, there were nine more certificates granted than last year, a total of 56 as against 47 in 1933, which shows that the interest in the Scheme is growing, and I am sure there are many owners of birds who are very keen to get the Three Certificates, which have to be awarded by three different judges, and one when the bird is an adult before the owner can claim that his bird is a Champion, a by no means easy job to accomplish, with the high standard of excellency most breeds have now got to.

I will now deal with the different Breeds on view at the 1934 Dairy Show :—

Dragoons numbered 263 entries in 28 classes as compared with 272 entries in 32 at the previous Show, and although a decrease of nine entries, the average was much better as there were four classes less this year. The competition in this section is always of the very best and keenest. The young birds were of exceptionally good type

and quality this year, and a wonderful lot right through. The Adults and Yearlings were judged by Mr. F. C. Hannent, and the 1934 Birds by Mr. T. J. Ambrose, who was very pleased with the quality of the birds put before him.

The George Cotton Challenge Cup for best Cock bred in the current year was awarded to Pen 168, Class 19, Dr. C. H. Tattersall's grand young Silver Cock, also winner of the B.D.F.A.'s Gold Medal for best young bird in Show.

The George Cotton Challenge Cup for best Hen bred in the current year was awarded to Pen 45, Class 6, Mr. N. H. Dilworth's young Blue Hen and the B.D.F.A.'s Silver Medal for best young Dragoon Hen.

The Hewitt Challenge Cup for the best young White Dragoon bred in the current year was awarded to Mr. C. Falkner's young Cock, Pen 238, Class 26. The Seven N.P.A. Challenge Certificates allotted to this section were awarded as follows :—

		Class.	Pen.
Blues :	Mr. W. Proctor-Smith's adult cock ...	1	7
Blue Chequers :	Mr. A. H. Dilworth's adult cock ...	17	159
Grizzles ...	Mr. W. Proctor Smith's young cock ...	15	135
Silvers :	Dr. C. H. Tattersall's young cock ...	19	168
Red or Yellows :	Mr. G. Wilkinson's young hen ...	23	214
Whites	Mr. Cecil Cooper's adult hen ...	25	229
Red Chequers or A.O.C.	Mr W. Hunter Johnston's young Red Chequer cock	11	100

Modenas numbered 439 entries in 44 Classes as compared with 438 in 40 classes last year, not quite such a good average this year. Mr. W. E. Whiter judged the Gazzi Classes and reports that they were up to the standard usually found at this Show. I thought that the young stock had not advanced, but from the opinions of several Modena fanciers I had heard they thought that there was a great advance in this year's young stock. Mr. G. W. Canham judged the Schietti Classes, and thought there was a great improvement in all colours in the young birds, except the young Black Schietti Hens which were a poor lot. The colours of the reds and yellows has much improved as well as the type, and the B.D.F.A.'s Silver Medal was awarded to a Yellow Schietti Hen. It is a pity to see some of the judges still putting such bad coloured Tri-Schietti in the winners list, when they have others of a beautiful Tri-colour and nearly as good in type as the bad coloured ones they put up.

The Association's Silver Medal for best young Gazzi bred in 1934 was awarded to Pen 314, Class 35, Messrs. W. S. & R. W. Brocklehurst's young Black Gazzi Cock, which was also awarded the

Esquillant Trophy. The Association's Silver Medal for best young Schietti bred in 1934 was awarded to Pen 613, Class 64, Mr. W. F. Holmes' young yellow Schietti Hen.

The Eleven N.P.A. Certificates, two more than were allotted to this Section last year, were awarded as follows :—

				Class.	Pen
GAZZI :—					
Blue :	Mr. A. C. Tattersall's adult hen	...	...	30	279
Black :	Mr. A. C. Tattersall's adult cock	...	...	33	307
Bronzes :	Messrs. W. S. & R. W. Brocklehurst's adult hen	...	...	38	336
A.O.C. :	Messrs. W. S. & R. W. Brocklehurst's adult red cock	...	...	41	370
ARGENTS :—					
Blue or Black :	Mr. W. B. McCreath's adult cock	...	...	45	412
A.O.C. :	Mr. W. F. Holmes' adult cock	...	...	49	475
SCHIETTI :—					
Blues :	Messrs. W. S. & R. W. Brocklehurst's adult cock	...	...	53	497
Blacks :	Messrs. W. S. & R. W. Brocklehurst's adult cock	...	...	57	543
Red, Yellows, White					
or A.O. Self colour :	Mr. W. F. Holmes' Young Yellow hen	...	...	64	613
Bronze or Tri-colour :	Mr. J. L. Sears' adult Tri-cock	...	...	65	623
A.O.C. :	Dr. W. H. Tattersall's adult cock	...	...	69	662

Archangels numbered 71 entries in four classes as compared with only 28 in the same number of classes last year, an increase of 43 entries, which was a great revival of interest in this breed, which is a better average, in fact double the average of the last four years, and the exhibits themselves were well up to standard in quality. The Adult bird classes being especially strong and the uniform excellence throughout made the judge's task a very difficult one. The judge Mr. G. Bonner had a good morning's work despite the fact that he had an excellent light all the morning which is so essential for judging the birds.

The Association's Bronze Medal for best bird bred in the current year went to Pen 755, Class 76, Mr. Newton R. Steel's young Cock. The N.P.A. Challenge Certificates was awarded to Pen 732, Class 74, Miss Ida C. Gardiner's Adult Hen.

Oriental Frills numbered 131 entries in thirteen classes as compared with 161 entries in fourteen classes last year, a decrease of 30 entries with one class less ; some of the classes were well filled, others poorly, but taking this section right through, the quality was very good, and of the three exhibits from America belonging to Mr. F. Gone, one was good enough to win Class 86, Young Black or Dun Laced Satinette. Mr. E. Hall judged this section and awarded the Oriental Frill Club's Challenge Trophy for best Oriental in Show to Pen 824, Class 82, Captain W. Turton's young Blondinette, the same exhibit taking the Association Silver Medal for best young Frill.

The four N.P.A. Certificates were awarded as follows :—

		Class.	Pen.
Oriental Turbits :	Mrs. W. M. Prince Smith's adult cock	77	7
Blondinettes :	Mr. H. Seaton's adult cock ...	81	811
Satinettes :	Mr. W. A. Smith's adult cock ...	85	861
A.O.V. Oriental :	Mr. H. P. Scatliff's ...	79	793

Turbits numbered 40 entries in 5 classes as compared with 42 entries in 5 classes last year, there being one class cancelled this year. It is surprising that there are not more Turbits exhibited at the Dairy Show, 40 is about the average number of Turbits seen each year. The quality was exceedingly good, and type throughout very even and it was in this section that the Jones' Trophy winner was found, Mr. W. B. Lobb's Adult Cock, Pen 927, Class 93, the same exhibit taking the N.P.A. Certificate, and the Association Bronze Medal for best young Turbit bred in the current year going to Pen 922, Class 92, Mr. M. C. J. Sparrow's young cock. Mr. H. R. Champness judged this section.

Nuns numbered 76 entries in 6 classes as compared with 56 in 5 classes last year, an increase of 20 entries and one class more ; one class had to be cancelled this year, otherwise the good entry was very gratifying to the judge, Mr. J. W. Neal, who found the quality throughout excellent, especially the Blacks which were a grand lot. The Association's Bronze Medal for best young bird bred in 1934, went to Pen 978, Class 98, Mr. W. J. Smellie's young Black Cock.

The two N.P.A. Certificates were awarded as follows :—

		Class.	Pen.
Black or Dun :	Mr. W. J. Smellie's adult black cock	97	945
Red, Yellow or Blue :	Dr. J. W. Cairns' blue cock ...	103	1014

Short Faced Tumblers numbered 55 entries in 6 classes as compared with 68 entries in 4 classes last year, a decrease of 13 entries and two extra classes. Mr. C. A. House judged this section and says that this section was noticeable for the large number of Almonds and their high quality. The Balds had the Balds and Beards class to themselves. Short Faced Balds seem to have decreased in numbers and in quality, whilst the Beards have lingered for years and at last seem to be a thing of the past. The 1934 A.O.V. Class was strong in Selves, they were a most typical lot.

The Association's Bronze Medal for the best Short Faced Tumbler bred in the current year went to Pen 1035, Class 104, Col. R. Bulton's young Almond Cock.

The two N.P.A. Certificates were awarded as follows :—

		Class.	Pen.
Almond :	Mr. W. Proctor Smith's adult cock ...	104	1021
Bald & A.O.C. :	Col. R. Bulton's	107	1048

Barbs numbered 7 entries in the one class against 17 entries last year in two classes. These were judged by Mr. C. A. House, who says the Barbs were few and of low merit—another of our old breeds going west.

Long Faced Tumblers Section. This section has now been divided into three parts. The Sells, the Baldhead, Beards, Mottle and Rosewing and Whitesides and the Muffed Tumblers, and there were a total of 328 entries in 29 classes last year of all three sections.

The Long Faced Self Section numbered 129 entries in 13 classes one being cancelled this year, as compared with 166 entries last year, a decrease of 37 entries and although the entry was down the quality and type was very good and quite equal to past years was the comment on the classes that Mr. G. L. Lappin judged—the Blacks, Red and A.O.C. Bar classes. Mr. C. Turner who judged the other Self Classes reports that he considers that the adults were as a whole better in quality than those bred 1934. With the exception of the Blue Barred, in this case the adult class was cancelled. The 1934 Whites appeared rather on the small and fine side than hitherto, whilst the adults were quite up to usual standard. The same applies to the Yellow Self Adults, adults again leading with quality and 1934 bred ones appeared to be late bred and not quite ready. The Blue Barred show a slight improvement in type on last year's exhibits.

The Association's Silver Medal for best Self bred in the current year was awarded to Mr. T. Gillespie, Pen 1196, Class 123.

The four N.P.A. Certificates were awarded as follows :—

		Class.	Pen.
Black :	Mr. W. R. Atherton's young black cock	112	1105
Red or Yellow :	Mr. J. Seaton's yellow adult cock ...	116	1144
Blue Bar :	Mr. T. Gillespie's young blue bar cock	121	1177
A.O.C. :	Mr. T. Gillespie	123	1196

Other Varieties Long Faced Tumblers numbered 125 entries in 12 classes as compared with 127 entries last year, made up of 75 Baldhead, 29 Beards, 21 Mottle and Rosewing, and were judged by Mr. F. J. Toyhill, who says that the Black Balds were good classes and the A.O.C. Class the young birds were exceptionally good. The Beard class do not seem to be on the increase, getting fewer each year, but the quality was good in the few birds shown. The Mottles and Whitesides were a nice lot and brought together a very nice collection, and on the whole the birds were in good feather and honestly shown. The Association's Silver Medal for the best young bird in this section was awarded to Pen 1238, Class 127, Mr. E. W. McHardy's young Black Baldhead Hen.

The three N.P.A. Certificates in this Section were awarded as follows :—

		<i>Class.</i>	<i>Pen.</i>
Black Balds :	Mr. R. McHardy's young black hen ...	127	1238
A.O.C. Balds	Mr. R. McHardy's young hen ...	130	1284
Beards :	Mr. C. Charpe Magee's young cock ...	133	1307

Muffed Tumblers numbered 34 entries in the 4 classes, last year there being 35 in the same number of classes. The quality was up to the usual standard but it was noticeable that the foot and hock featherings were not nearly fully grown this year, owing no doubt to the extraordinary moulting season. Mr. C. Tanner judged this section and awarded the Association's Bronze Medal to Mr. H. Whitley's Pen 1363, Class 140, and the N.P.A. Certificate went to Mr. H. James, Pen 1360, Class 139.

Magpies numbered 59 entries in 6 classes as compared with 72 entries in 7 classes last year, one class this year was cancelled, a decrease of 13 and 26, the last two years. Magpies seem to be getting fewer at the Dairy Show each year, but the quality and type is much improving and wry tails disappearing gradually which is very pleasing. The Blacks and Reds are still well ahead of the Yellows and Silvers. Mr. C. H. Rolstone judged this section and awarded the Association's Bronze Medal for the best bird bred in the current year to Mr. W. E. Prowse's young Black Hen, Pen 1388, Class 142 and the two N.P.A. Certificates were awarded as follows :—

		<i>Class.</i>	<i>Pen.</i>
Black or A.O.C. :	Mr. R. B. Wright's black cock ...	141	1372
Yellows or Reds :	Mr. E. H. Kistler's red hen ...	146	1425

Variety Pigeon Classes. Entries numbered 126 in 14 classes, one class of Spots was cancelled this year, as compared with 116 in 13 classes last year, a better average, and the total was made up of the following most interesting breeds : *Fancy Swallows*, 13 ; *Ice*, 11 ; *Frillbacks*, 8 ; *Monks*, 7 ; *Polish Lynx*, 10 ; *Blaze Faces*, 8 ; *Gimples*, 13 ; *Swifts*, 11 ; *Priests*, 17 ; *Starling or Suabians*, 19, and *Shields*, 8. These variety pigeons were shown in wonderful condition and the quality was excellent, the foot feathered varieties in particular.

The Association Bronze Medal for the best pigeon in this section going to Dr. J. S. Peebles' young Fairy Swallow, Pen 1436, Class 149.

The two N.P.A. Certificates were awarded as follows :—

		<i>Class.</i>	<i>Pen.</i>
Fairy Swallow :	Dr. J. S. Peebles' Medal winning young Fairy Swallow cock...	149	1436
Priest :	Mrs. B. M. Hamilton's adult blue cock	157	1513

Mr. A. J. Parker judged this section.

Racing Pigeons numbered 179 entries in 8 classes as compared with 209 last year in the same number of classes, a decrease of 30 entries on last year's total. Mr. J. Bruce judged the classes 167 and 168 young birds, and classes 169 and 170 for Any Age Birds, trained or not, and reported that in the two young classes he found them of a very high standard of quality indeed, the greater majority being typical of what a racing pigeon should be, and a very few of the best in classes 169 and 170 "Likeliest" Flyers Classes, were outsize or unwieldy. Very many were corky in body and bouyant and the quality of feather was excellent and abundant. Both the old and young birds in these four classes had grown splendid feathers and it was evident the moulting season up to date had been an excellent one.

Mr. S. Fuller-Isaacson judged the other four classes, but up to the present I have had no report on his classes.

The Osman Memorial Perpetual Challenge Cup for the Best Racing Pigeon was awarded to Mr. R. J. Woton's Cock, flown at least 200 miles, Pen 1556, Class 163. And the Association Bronze Medal for the best opposite sex to Cup winner went to Mr. J. D. Burbidge's Hen, Pen 1713, Class 170.

Flying Tipplers numbered 49 entries in two classes as compared with 31 entries in two classes last year, an increase of 18 entries, last year being the first time this Variety was entered for, for some years,—most encouraging. Mr. A. C. Chamberling judged this section and reported that the exhibits in these two classes were extremely good in quality, the Adult Class provided some very difficult moments when deciding the actual winners. Type, condition and feather qualities being in almost every case very near perfection. The exhibits were of as good a quality as I have ever seen penned in any one Show.

Antwerp Smerles numbered 49 entries in 5 classes as compared with 66 in 6 classes last year. Generally speaking the quality of the birds was up to the average and their condition was good. Progress towards the ideal is shown, but it is evident nevertheless that they have a long way to go yet.

The Association Bronze Medal for the best bird bred during the current year was awarded to Mr. Charles Budd's young Black Cock, Pen 1789, Class 173.

The N.P.A. Certificate was awarded to Mr. F. Collingbourne's young Cock, Pen 1801, Class 174.

Mr. W. J. Rayner judged this section.

Jacobins numbered 31 entries in 3 classes. The class for Adult Hens being cancelled; last year there were 29 entries in four classes, a better average this year, and quite a fair show for the Dairy Show, which is always held too early for *Jacobins* to get through the moult, but they were a grand lot and looked well.

Mr. W. E. Pollard judged this section.

The Association Bronze Medal for best bird bred in the current year was awarded to Mr. J. Reid's young Red Cock, Pen 1843, Class 182.

The N.P.A. Certificate was awarded to Dr. J. L. Elliott's adult Yellow Cock.

English Owls numbered 47 entries in 6 classes as compared with 48 entries in the same number of classes last year. Mr. R. Arkwright, who judged this section found the quality up to the standard in the Adults and the winning Adult Blue Cock was far in front of the other adults, and hard to find a fault with, and one that could be taken as being as near the Ideal as possible. Most of the adult Hens have a tendency to coarse wattle and cere. The young birds were a grand lot, full of quality and type throughout, especially the Cup winner. The Gatty Challenge Cup winner was Mr. W. Prince Smith's young Blue Cock, Pen 1896, Class 186.

The two N.P.A. Certificates were awarded as follows :—

			Class.	Pen.
Blues :	Mr. J. F. Forrest's adult blue cock ...	...	182	1865
A.O.C. :	Mr. W. Prince Smith's ...	...	184	1883

African Owls numbered 32 entries in three classes as compared with 23 entries in two classes last year. The entries in two classes were very good, but the Any Other Colour Class was very poor. Mr. R. Arkwright also judged this section and reports as follows :—

Pleased to see a great improvement in numbers and quality throughout. I went for a small Body, stout in feather as to my mind there should be a great distinction between the English; the Adult winning Black, was a bird of real quality, small Body, round head, full front, and correct set beak and eye in centre, worthy of the highest honour, in fact there was not a bad bird in the class. I was greatly pleased to see such a great improvement in the type and quality of the African now being shown.

The Gatty Challenge Cup for the best African in Show was awarded to Messrs. Lawrie & Hedley's young Cock, Pen 1936, Class 190.

The N.P.A. Certificate was awarded to Messrs. Lawrie & Hedley's Adult Cock, Pen 1912, Class 188.

Antwerps numbered 32 entries in 4 classes as compared with 22 entries in 4 classes last year, an increase of ten, which is very encouraging, and also it was very pleasing to note a great improvement in the condition of the birds shown. Competition was very keen throughout and no wet eyes, coarse wattle birds were to be seen, a step in the right direction, which will encourage fanciers to take up this very noble variety.

The Association Bronze Medal for the best bird in the current year was awarded to Mr. H. Driver's young Cock, Pen 1961, Class 193.

The N.P.A. Certificate was awarded to Mr. H. Driver's Adult, Pen 1944, Class 191.

Mr. N. C. Allen judged this section.

Show Homers numbered 43 entries in 4 classes as compared with 81 entries in 8 classes last year, the average being about the same. The judge, Mr. A. P. Knight reports that it is regrettable that only four classes of Show Homers can be provided for at this Show, when there always seemed to be a very fine show in past years. In his opinion the quality generally was not up to the usual Dairy Show standard, the young birds were not nearly so good as in past years.

The Lovell Challenge Trophy for the best bird in this Section was awarded to Mr. F. A. Martin's Adult Cock, Pen 1979, Class 195.

The Association Bronze Medal for the best bird bred in the current year was awarded to Mr. F. G. Barnard's young Cock, Pen 2008, Class 197.

The N.P.A. Certificate for best Show Homer was awarded to Mr. F. A. Martin's Adult Cock, Pen 1979, Class 195.

Exhibition Homers numbered 65 entries in 6 classes as compared with 70 entries in the same number of classes last year, a slight decrease of 5, and the judge Mr. H. F. Fox, reported that his section showed some improvement in quality, particularly in the Any Other Colour Classes; most improvement in the cocks, the hens although larger in numbers were a little disappointing. The Blues and Black Chequers with the exception of the winning Hens were not as good in type as in previous years; this applies to the cocks as well. Red Chequers fell far below their usual standard at the Dairy Show.

The Association Bronze Medal for the best bird bred in the current year was awarded to Mr. R. O. Wellband's young Hen Pen 2040, Class 202.

Holle Croppers numbered 27 entries in 3 classes as compared with 34 entries in 4 classes last year.

Mr. A. Allen judged this section and reported that there was a decided improvement in type and colour, particularly in Pieds and Grizzles. A few birds were on the large side and failed lamentably in carriage and placement of globe.

I understand that the Holles had been fed before judging, which was contrary to orders issued, and will endeavour to see that it does not happen another year, as it is impossible to judge the birds properly.

The Association's Bronze Medal for the best bird in this section was awarded to Mr. D. Parvin's Adult Cock, Pen 2088, Class 205. The N.P.A. Certificate was awarded to Mr. D. Parvin's exhibit also, Pen 2088, Class 205.

Runts numbered 28 entries in 4 classes as compared with 17 in two classes last year. The judge, the Rev. C. Greaves, reports that the standard was about the same as last year right through, but the Blues have lost ground to the Silvers, whilst the Off colour, Splashes, Grizzles and Pieds are more numerous and are gradually increasing in size and other points. One wonders why none of our farmer fanciers do not go in for a flock of these big table birds, as they are not only an ornament to any farm, but are fairly steady breeders and their size makes them the best table pigeon in the world.

The Association Bronze Medal for the best bird bred in the current year was awarded to Mr. J. F. Robinson, Pen 2130, Class 211, and the N.P.A. Certificate for best Runt went to Mr. J. L. Sears' adult cock, Pen 2113, Class 208.

Carriers numbered 47 entries in 7 classes, one class being cancelled, as compared with 37 entries in 6 classes and two cancelled last year, 10 more entries and one more class this year.

I am afraid this old bird is not increasing in numbers as the drop in numbers each year is noticeable throughout the Shows. Mr. A. J. Warwick, the judge, reports that although the entries in these classes was not so good as was expected, the quality throughout was very good and with the exception of one or two birds, they were in splendid condition. I should here like to mention the extraordinary performance of one exhibitor, Mr. J. B. Cooper of Royston, who showed 20 exhibits and won all the twenty-one prizes and specials, except one third, in this section, a truly wonderful performance for any one exhibitor to accomplish at a show like the Dairy.

The Carrier Club's Challenge Cup for best adult was awarded to Mr. J. B. Cooper's Dun cock, Pen 2141, Class 212.

The Association Silver Medal for best Carrier went to the same exhibit, Pen 2141, Class 212.

The N.P.A. Certificate also went to Pen 2141, Class 212, the property of Mr. J. B. Cooper.

Pouters numbered 18 entries in 2 classes as compared with 18 entries in 4 classes last year. Though a better average, this year, still a very poor section. The judge, Mr. Fred Jupe, reports that the exhibits were a nice average lot, but nothing of outstanding merit. The adults were a very nice lot and practically all of them in excellent condition and very typical specimens of the breed.

The N.P.A. Certificate was awarded to Mr. H. N. Leighton's adult cock, Pen 2191, Class 220.

Pigmy Pouters numbered 111 entries in 14 classes as compared with 110 entries in 13 classes last year, the average not so good this year per class. Mr. Fred Jupe judged the adult classes and found them quite a good lot and in excellent condition and well, shown. Mr. E. T. Angus judged the young birds and found that they had not improved as much as the Whites for quality and type.

The Challenge Cup for best cock bred in the current year was awarded to Mr. H. N. Leighton's young white cock, Pen 2286, Class 233.

The Captain St. John Hornby Challenge Bowl for the best Adult bird was awarded to Mr. F. W. Miller's Pen 2207, Class 222.

The Association Silver Medal for best young bird was awarded to Mr. H. N. Leighton's young White Cock, Pen 2286, Class 233.

The three N.P.A. Certificates were awarded as follows :—

					Class.	Pen.
Blue or Silver :	Mr. F. W. Miller's	...	...	...	222	2207
Black, Red or						
Yellow :	Messrs. Brooks & Pope's	...	...	...	224	2218
White, Splash						
or A.O.C. :	Mr. H. N. Leighton's young white cock	...			233	2286

Norwich Croppers numbered 36 entries in 4 classes as compared with 64 entries in 6 classes last year, which was a big drop of 28 entries and two more classes. This year the Adults Classes were dropped, which I think was a pity, but expect the Club knows best. The quality was very good and the birds show in good condition.

The Association Bronze Medal for best bird bred in the current year was awarded to Mr. H. Whitley's Pen 2321, Class 236. Mr. W. Gissing judged this section.

Fantails numbered 67 entries in 7 classes, one class being cancelled as compared with 100 entries in 10 classes last year, a big drop. Mr. Morris Pugh who judged this section, said that many of the *Fantails* to-day are rapidly approaching the Ideal, the Whites especially being almost perfect. He thought that the square pens was the cause of the much reduced entries this year. Mr. F. H. Jarvis' 2nd Prize White Cock in Class 242, Pen 2374 has proved itself to be a Hen with the result Pen 2371 is now 2nd, and Pen 2370 3rd.

The Alfred Bates Challenge Cup for the best bird in Show was awarded to Mr. F. H. Jarvis' Young White Hen, Pen 2380, Class 243.

The Association Silver Medal for the best bird bred in the current year also went to Pen 2380, Class 243, Mr. F. H. Jarvis, Pen 2380, Class 243, also won the Fulton Trophy.

The two N.P.A. Certificates were awarded as follows :—

					Class.	Pen.
Whites :	Mr. F. H. Jarvis' young white hen	...	...	...	243	2380
A.O.C.	Mr. F. H. Jarvis'	...	...	...	247	2408

Any Variety not Classified numbered 10 entries in the one class, last year there being 9 entries in the one class. I regret to say that this year several entries in this class had to be marked wrong class, such as Norwich Croppers and Fancy Swallows, which have been entered in this class, as the Schedule distinctly provided a section for those Varieties and which are classified in the Schedule. The same thing happened last year but was not brought to my notice until too late to put it right. It looks as if the Committee would do well to drop this class altogether now that most varieties are provided for by the Variety Pigeon Club that have not got a Club of their own.

Mr. C. A. House judged this class.

Selling Classes numbered 72 entries in 4 classes as compared with 45 entries in 4 classes last year, an increase of 27 entries this year, which is encouraging, though I am afraid it has not helped to sell any more birds at the Show, although there were many bargains to be had.

Mr. C. A. House judged this section.

In concluding this report of the Pigeon Section of the 1934 Dairy Show, I must once again thank all the members of my Committee and Stewards for their hard work, support and right loyal help, without which it would be well nigh impossible to get the large amount of work there is to be done in time for the public to be allowed in the galleries by 1 o'clock on the first day. All the

penning in and packing out was done in a splendid manner and without any queries at the finish. I am gratified to be able to report that all exhibits were got away in good time to catch the late trains to their destinations.

My sincere thanks are also due to Mr. F. J. Bull and his Staff for all the very able assistance and co-operation at all times during the Show; to Mr. A. Wallace in the Pigeon Office and to Mr. E. O'Dell who acted as my Assistant during the Show and relieved me of much of the office work. I am extremely grateful to all concerned, who helped me to carry out the work in this section, and I trust that the exhibitors and public alike are satisfied with all that is done for the birds' welfare and for the public to see such a grand display of pigeons as is put in front of them at the Dairy Show each year.

AWARD OF PRIZES, DAIRY SHOW, 1934

TROPHIES AND SPECIAL PRIZES FOR DAIRY COWS AND HEIFERS IN MILK.

Open to all Breeds.

- THE BRITISH DAIRY FARMERS' ASSOCIATION'S SUPREME INDIVIDUAL CHAMPIONSHIP CHALLENGE TROPHY, for the Cow gaining the greatest number of points on Inspection, in the Milking Trials (provided the quality of the milk analysed during the test does not fall below 3 per cent. fat, nor below 8.5 per cent. of non-fatty solids at any Milking), and in the Butter Test. Awarded to Cecil Ball, for British Friesian Cow "Oakham Dainty."
- THE "BLEDISLOE" CHALLENGE TROPHY (presented by LORD BLEDISLOE, P.C., G.C.M.G., K.B.E.), for the best exhibit of good all-round Dairy Cows. Awarded to Dairy Shorthorns.
- THE "MORRISON" CHALLENGE TROPHY (presented by MAJOR J. A. MORRISON, D.S.O.), for the Cow exhibited at three consecutive London Dairy Shows at which Cattle was exhibited, gaining the greatest total number of points (at the three Shows) on Inspection, in the Milking Trials and Butter Tests. Awarded to George Wills for South Devon Cow "Milkmaid 3rd."
- THE "BARHAM" CHALLENGE CUP (presented by Mr. G. TITUS BARHAM), for the Cow gaining the greatest number of points in the Milking Trials. Awarded to Cecil Ball, for British Friesian Cow "Oakham Dainty."
- THE "SPENCER" CHALLENGE CUP (presented by Mr. J. F. SPENCER, Coronation Year, 1902), for the cow gaining the greatest number of points on Inspection, in Milking Trials and Butter Tests. Awarded to Cecil Ball, for British Friesian Cow "Oakham Dainty."
- THE "SHIRLEY" CHALLENGE CUP (presented by the late Mr. J. L. SHIRLEY), for the Cow giving the greatest average daily weight of milk in the Milking Trials, such milk to contain not less than 3 per cent fat and 8.5 per cent. of non-fatty solids. Awarded to Cecil Ball, for British Friesian Cow "Oakham Dainty."
- THE NATIONAL MILK CHALLENGE CUP, for the Cow or Heifer of any breed, entered or eligible for the Herd Book of its breed, obtaining in the Milking Trials the greatest number of points per 1,000 lbs. live weight for Milk with lactation points added. Awarded to Mrs. R. M. Foot for Jersey Cow "White Hill Happy May."
- THE NATIONAL BUTTER CHALLENGE CUP, for the Cow or Heifer of any breed, entered or eligible for the Herd Book of its breed, obtaining in the Butter Tests the greatest number of points per 1,000 lbs. live weight for Butter with lactation points added. Awarded to J. W. McCallum, for Jersey Cow "Sonata."
- SPECIAL PRIZE OF £10 (offered by SIR ROBERT L. MOND, J.P.), for Two Animals, the Progeny of any particular Bull, awarded to Sir Mark Collet, Bart. for "St. Clere Millicent 11th" and "St. Clere Ruby 6th" (Shorthorns).

Open only to Shorthorns.

THE "DESBOROUGH" CUP (presented by LORD DESBOROUGH, K.G., G.C.V.O.), for the Cow, exhibited in Classes 1 or 2, gaining the highest points in the Milking Trials. Awarded to C. J. Allday for "Fothering Water Baby."

THE "CALVERT" CHALLENGE CUP (presented by Mr. HORATIO CALVERT), for the best Pedigree Dairy Shorthorn Cow or Heifer upon Inspection only. Awarded to J. W. Smith & Son, for "Kentish Honey Jean."

THE "SHORTHORN" BUTTER CHALLENGE CUP (presented by MAJOR S. P. YATES), for the Shorthorn Cow or Heifer entered in Classes 1 to 5 complying with all conditions of the Butter Tests, also gaining the greatest number of points under the qualified headings. Awarded to Chivers & Sons, Ltd. for "Duchess of Histon 8th."

THE "THORNTON" CHALLENGE CUP (presented by MESSRS. JOHN THORNTON & CO.), for the best Group of three Pedigree Dairy Shorthorn Cows and/or Heifers upon Inspection only. Awarded to Sir Mark Collet, Bart. for "St. Clere Millicent 11th," "St. Clere Daffodil 13th" and "St. Clere Lady Wellesley."

EXTRA PRIZE OF £25, offered jointly by the Shorthorn Society of the United Kingdom of Great Britain and Ireland and the Dairy Shorthorn (Coates's Herd Book) Association for the Dairy Shorthorn Cow or Heifer, pedigree or non-pedigree, gaining most points on Inspection, in the Milking Trials and Butter Tests. Awarded to T. B. Bucknell for "Snowball."

TWO EXTRA PRIZES of £5 offered jointly by the Shorthorn Society and the Dairy Shorthorn Association, for the two Cows exhibited in Class 2 gaining most points on Inspection and in Milking Trials. Awarded to Sir Mark Collet, Bart., for "St. Clere Millicent 11th" and "St. Clere Lady Wellesley."

TWO EXTRA PRIZES of £5 each offered jointly by the Shorthorn Society and the Dairy Shorthorn Association for the two Heifers exhibited in Class 3 gaining most points on Inspection and in Milking Trials. Awarded to J. Onslow Fane for "Steventon Dog Rose" and to Sir Mark Collet, Bart. for "St. Clere Ruby 6th."

EXTRA PRIZE of £10 offered jointly by the Shorthorn Society and Dairy Shorthorn Association for the Cow exhibited in Class 4 and entered, or accepted for entry, in the Grading Registers of either the Shorthorn Society or the Dairy Shorthorn Association, gaining most points on Inspection and in Milking Trials. Awarded to T. B. Bucknell for "Snowball."

Open only to British Friesians.

THE "THORNTON" CHALLENGE CUP (presented by MESSRS. JOHN THORNTON & CO.), for the best group of three Pedigree British Friesian Cows and/or Heifers upon Inspection only. Awarded to G. J. Caddey for "Egham Thelma 4th," "Egham Titania 6th" and "Egham Marigold 6th."

Open only to South Devons.

A SILVER CHALLENGE CUP (presented by the SOUTH DEVON HERD BOOK SOCIETY), for the Pedigree South Devon Cow gaining the greatest number of points on Inspection, in the Milking Trials and Butter Tests. Awarded to Miss Jervoise Smith for "Crocus."

Open only to Devons.

THE "BUSK" PERPETUAL CHALLENGE CUP (presented by Friends of the late WILLIAM GOULD BUSK of Wraxhall, Dorset), for the Devon Cow or Heifer gaining the greatest number of points on Inspection, in the Milking Trials, Butter Tests, and for the Milk Record for the 12 months ended 1st October, 1934. Awarded to H. G. Mayo for "Corton Comet."

Open only to Red Polls.

THE "THORNTON" CHALLENGE CUP (presented by MESSRS. JOHN THORNTON & CO.), for the Red Poll Cow or Heifer gaining the greatest number of points on Inspection, in the Milking Trials and Butter Tests. Awarded to Stuart Paul for "Samford Witchgirl."

Open only to Ayrshires.

THE "ROWALLAN" CHALLENGE CUP (presented by LORD ROW-ALLAN), for the Ayrshire Cow or Heifer registered or eligible for registration with a number in the Ayrshire Cattle Herd Book, gaining the greatest number of points on Inspection, in the Milking Trials and Butter Tests. Awarded to W. A. Thomson for "Dalpeddar East Wind."

Open only to Guernseys.

THE "STAGENHOE" CHALLENGE CUP (presented by Mrs. W. BAILEY-HAWKINS), for the Guernsey Cow or Heifer gaining the greatest number of points on Inspection, in the Milking Trials and Butter Tests. Awarded to Capt. H. J. Pilbrow for "Charlotte of Sous Les Hougues."

Open only to Jerseys.

THE "BLYTHWOOD" PERPETUAL CHALLENGE BOWL (presented by THE RT. HON. LORD BLYTH OF BLYTHWOOD), for the best Jersey Cow or Heifer bred in Great Britain or Ireland and entered or eligible for entry in the English Jersey Herd Book, on Inspection. Awarded to S. S. Lockwood for "Cowslip 5th."

THE "BLYTHWOOD" PRODUCTION CHALLENGE BOWL, presented by the HEIRS OF THE LATE MR. J. H. SMITH-BARRY, for the Jersey Cow or Heifer gaining the greatest number of points in the Milking Trials and in the Butter Tests, provided that the animal has been bred in Great Britain or Ireland. Awarded to J. W. McCallum for "Sonata."

GOLD, SILVER AND BRONZE MEDALS (presented by the ENGLISH JERSEY CATTLE SOCIETY) for the first three animals in the Butter Test, obtaining not less than 42 points. Awarded to J. W. McCallum for "Sonata; S. S. Lockwood for "Cowslip 5th" and H. C. Pelly for "Primrose 2nd."

Open only to Kerries.

A SILVER CHALLENGE CUP (presented by the BRITISH KERRY CATTLE SOCIETY), for the Kerry Cow gaining the greatest number of points in the Milking Trials. Awarded to H. E. Mitchell for "Ard Caoin Dove."

Open only to Dexters.

THE "NUTT" CHALLENGE CUP (presented by Mrs. H. J. NUTT), for the Dexter Cow or Heifer gaining the most points on Inspection, in the Milking Trials and Butter Tests. Awarded to Lady Loder for "Grinstead Nightingale 3rd."

Inspection and Milking Trials Prizes.

CLASS 1.—DAIRY SHORTHORN COW.—Entered in or accepted for Coates' Herd Book. Born on or previous to 1st August, 1929. Cows entered in this Class must have yielded a minimum of 8,000 lbs. at five years old or over, or 6,000 lbs. at under five years old during a lactation period of 45 weeks, recorded by a recognised Milk Recording Society. *First Inspection* (£10), *Extra Inspection* (£5) and *Third Milking Trial* (£3 10s.) to J. W. Smith & Son for "Kentish Honey Jean." *Second Inspection* (£5) to F. Chapman for "Knells Elliot Twig." *Third Inspection* (£3) to C. A. Chillingworth for "Siddingworth Rose 2nd." *First Milking Trial* (£12) to C. J. Allday for "Fothering Water Baby." *Second Milking Trial* (£6) to E. Uwins Gillate for "Orfold Fancy 13th."

CLASS 2.—DAIRY SHORTHORN COW.—Entered in or accepted for Coates' Herd Book. Born after 1st August, 1929, and previous to 1st August, 1931. *First Inspection* (£5) and *Fourth Milking Trial* (£1 5s.) to Sir Mark Collet, Bart. for "St. Clere Millicent 11th." *Second Inspection* (£3) to L. Hignett for "Duchess of Checkendon." *Third Inspection* (£2) and *Third Milking Trial* (£2 10s.) to Sir Mark Collet, Bart. for "St. Clere Lady Wellesley." *Fourth Inspection* (£1) to G. R. H. Smith for "Oxton Wild Eyes." *Fifth Inspection* (10s.) to Sir Mark Collet, Bart., for "St. Clere Daffodil 13th." *First Milking Trial* (£6) to J. Onslow Fane for "Steventon Grace." *Second Milking Trial* (£3 10s.) to W. H. Vigus for "Revels Roan Annetta." *Fifth Milking Trial* (15s.) to Chivers & Sons, Ltd. for "Duchess of Histon 8th."

CLASS 3.—DAIRY SHORTHORN HEIFER.—Entered in or eligible for Coates' Herd Book. Born on or after 1st August, 1931, and having produced only one calf. *First Inspection* (£5) and *Second Milking Trial* (£3 10s.) to J. Onslow Fane for "Steventon Dog Rose." *Second Inspection* (£3) to C. J. Allday for "Fothering Baroness Foggathorpe." *Third Inspection* (£2) to Chivers & Sons, Ltd. for "Histon Barrington 13th." *Fourth Inspection* (£1) to J. H. Robinson for "Hillend Pearl." *Fifth Inspection* (10s.) and *Fourth Milking Trial* (£1 5s.) to A. T. Loyd for "Lockinge Princess Moira 2nd." *First Milking Trial* (£6) to Sir Mark Collet, Bart., for "St. Clere Ruby 6th." *Third Milking Trial* (£2 10s.) to W. H. Vigus for "Revels Maggie's Mabel." *Fifth Milking Trial* (15s.) to Chivers & Sons, Ltd., for "Histon Barrington 12th."

CLASS 4.—DAIRY SHORTHORN COW.—Not eligible for Class 1 or 2. Cows entered in this Class must have yielded a minimum of 8,000 lbs. at five years old or over, or 6,000 lbs. at under five years old during a lactation period of 45 weeks, recorded by a recognised Milk Recording Society. *First Inspection* (£10), *Extra Inspection* (£5) and *Second Milking Trial* (£6) to T. B. Bucknell for "Snowball." *Second Inspection* (£5) to University Farm, Cambridge, for "Daisy 5th." *Third Inspection* (£3) to J. W. Shirley for "Lodge Daisy." *First Milking Trial* (£12) to B. P. Stockley for "Fanny." *Third Milking Trial* (£3 10s.) to C. Birnstingl for "Rosemary."

CLASS 5.—DAIRY SHORTHORN HEIFER.—Born on or after 1st August, 1931, and having produced only one calf. Not eligible for Class 3. *First Inspection* (£5) and *Second Milking Trial* (£3 10s.) to H. Brazier for "Fill-pail." *Second Inspection* (£3) to F. Chapman for "Jean 2nd." *Third Inspection* (£2) and *Third Milking Trial* (£2 10s.) to H. Brazier for "Dairymaid." *First Milking Trial* (£6) to J. H. Robinson for "Ascot's Daisy."

CLASS 6.—LINCOLNSHIRE RED SHORTHORN COW.—Entered in or accepted for the Herd Book. Cows entered in this Class must have yielded a minimum of 7,000 lbs. at five years old or over, or 5,250 lbs. at under five years old

either during a lactation period of 45 weeks or for any one completed year of a recognised Milk Recording Society. *First Inspection* (£10) and *Second Milking Trial* (£6) to F. R. Wood for "Bendish Sunbeam 12th." *Second Inspection* (£5), *Extra Inspection* (£5) and *First Milking Trial* (£12) to F. Sainsbury for "Bendish Poppy 9th." *Third Inspection* (£3) to F. Sainsbury for "Wratting Sunbeam."

CLASS 7.—LINCOLNSHIRE RED SHORTHORN HEIFER.—Entered in or eligible for the Herd Book. Born on or after 1st August, 1931, and having produced only one calf. *First Inspection* (£5) and *Third Milking Trial* (£2 10s.) to F. R. Wood for "Bendish Nancy 25th." *Second Inspection* (£3) to F. Sainsbury for "Wratting Sunbeam 2nd." *Third Inspection* (£2) and *Second Milking Trial* (£5) to F. Sainsbury for "Wratting Queen." *First Milking Trial* (£8 10s.) to F. R. Wood for "Bendish Ada 15th."

CLASS 8.—BRITISH FRIESIAN COW.—Entered in or accepted for the Herd Book or the Supplementary Register. Born on or previous to 1st August, 1929. Cows entered in this Class must have yielded a minimum of 8,000 lbs. at five years old or over, or 6,000 lbs. at under five years old either during a lactation period of 45 weeks or for any one completed year of a recognised Milk Recording Society. *First Inspection* (£10) and *Extra Inspection* (£5) to Lord Rayleigh for "Terling Profit 9th." *Second Inspection* (£5) to A. J. Creed for "Hawthorn Katja." *Third Inspection* (£3) and *First Milking Trial* (£12) to C. Ball for "Oakham Dainty." *Fourth Inspection* (£1) to J. E. Castle for "Curbridge Jessamine." *Second Milking Trial* (£6) to Strutt & Parker (Farms) Ltd., for "Lavenham Chancery 3rd." *Third Milking Trial* (£3 10s.) to T. G. Fairhead for "Covenbrook Lively 2nd." *Fourth Milking Trial* (£1 15s.) to C. Ball for "Barston Merrymaid 2nd."

CLASS 9.—BRITISH FRIESIAN COW.—Entered in or accepted for Herd Book or the Supplementary Register. Born after 1st August, 1929, and previous to August, 1931. *First Inspection* (£5) and *First Milking Trial* (£6) to C. W. H. Glossop, M.P., for "Lund Bleanchty's Juliana." *Second Inspection* (£3) to Piddington (Northants.) Estates, Ltd., for "Piddington Festus Daisy." *Third Inspection* (£2) and *Second Milking Trial* (£3 10s.) to Piddington (Northants.) Estates, Ltd., for "Piddington Flora." *Third Milking Trial* (£2 10s.) to J. H. Brown for "Marshgreen Kathleen."

CLASS 10.—BRITISH FRIESIAN HEIFER.—Entered in or eligible for the Herd Book or the Supplementary Register. Born on or after 1st August, 1931, and having produced only one calf. *First Inspection* (£5) to G. J. Caddey for "Egham Marigold 6th." *Second Inspection* (£3) and *Second Milking Trial* (£3 10s.) to G. J. Caddey for "Egham Titania 6th." *Third Inspection* (£2) and *First Milking Trial* (£6) to G. J. Caddey for "Egham Thelma 4th." *Third Milking Trial* (£2 10s.) to Piddington (Northants.) Estates, Ltd., for "Crawley Belinda 2nd."

CLASS 11.—SOUTH DEVON COW.—Entered in or accepted for the Herd Book. Born on or previous to 1st August, 1929. Cows entered in this Class must have yielded a minimum of 7,500 lbs. at five years old or over, or 5,600 lbs. at under five years old either during a lactation period of 45 weeks, or for any one completed year of a recognised Milk Recording Society. *First Inspection* (£7), *Extra Inspection* (£5) and *Second Milking Trial* (£5) to Dartington Hall, Ltd., for "Dartington Vera." *Second Inspection* (£4) to Dartington Hall, Ltd., for "Manor Dora." *Third Inspection* (£2) to Miss J. Smith for "Crocus." *First Milking Trial* (£8 10s.) to J. Rossiter for "Graceful." *Third Milking Trial* (£2 10s.) to Dartington Hall, Ltd., for "Cinderella."

CLASS 12.—SOUTH DEVON COW.—Entered in or accepted for the Herd Book.

Born after 1st August, 1929, and previous to 1st August, 1931. *First* Inspection (£5) and *Third* Milking Trial (£2 10s.) to Dartington Hall, Ltd., for "Perry Jasmine." *Second* Inspection (£3) and *First* Milking Trial (£6) to Dartington Hall, Ltd., for "Dartington Hall Gentle 8th." *Third* Inspection (£2) and *Second* Milking Trial (£3 10s.) to G. Wills for "Milkmaid 3rd."

CLASS 13.—SOUTH DEVON HEIFER.—Entered in or eligible for the Herd Book.

Born on or after 1st August, 1931, and having produced only one calf. *First* Inspection (£5) and *Third* Milking Trial (£2 10s.) to J. Rossiter for "Cholwells Daisy." *Second* Inspection (£3) and *Second* Milking Trial (£3 10s.) to Dartington Hall, Ltd., for "Dartington Hall Nervous Alice 2nd." *Third* Inspection (£2) to Dartington Hall, Ltd., for "Dartington Dairymaid." *First* Milking Trial (£6) to Dartington Hall, Ltd., for "Dartington Juliet."

CLASS 14.—DEVON COW.—Entered in or accepted for the Herd Book or the Supplementary Register.

Cows entered in this Class must have yielded a minimum of 6,500 lbs. at five years old or over, or 4,800 lbs. at under five years old either during a lactation period of 45 weeks, or for any one completed year of a recognised Milk Recording Society. *First* Inspection (£7), *Extra* Inspection (£5) and *First* Milking Trial (£8 10s.) to H. G. Mayo for "Corton Comet." *Second* Inspection (£4) and *Second* Milking Trial (£5) to A. J. P. Baker for "Woodrow Faney." *Third* Inspection (£2) to A. J. P. Baker for "Woodrow Gentle 2nd."

CLASS 15.—RED POLL COW.—Entered in or accepted for the Herd Book.

Born on or previous to 1st August, 1929. Cows entered in this Class must have yielded a minimum of 8,000 lbs. at five years old or over, or 6,000 lbs. at under five years old either during a lactation period of 45 weeks or for any one completed year of a recognised Milk Recording Society. *First* Inspection (£10) to Mrs. R. M. Foot for "White Hill Red Briar." *Second* Inspection (£5), *Extra* Inspection (£5) and *Third* Milking Trial (£3 10s.) to Hon. Mrs. R. Jenkinson for "Ashmoor Witty." *Third* Inspection (£3) and *Fourth* Milking Trial (£1 15s.) to S. Paul for "Samford Witchgirl." *Fourth* Inspection (£1) to Mrs. R. M. Foot for "White Hill Fair Flirt." *First* Milking Trial (£12) to Lt.-Col. Sir Merrik R. Burrell, Bart., for "Knepp Prudence 7th." *Second* Milking Trial (£6) to C. H. Cearn for "Weston Peggy."

CLASS 16.—RED POLL COW.—Entered in or accepted for the Herd Book.

Born after 1st August, 1929, and previous to 1st August, 1931. *First* Inspection (£7) to Brooks (Mistley), Ltd., for "Mistley Amethyst." *Second* Inspection (£4) and *First* Milking Trial (£8 10s.) to Mrs. H. D. Lewis for "Combwell Rosie." *Third* Inspection (£2) to S. Paul for "Kirtton Quakeress." *Second* Milking Trial (£5) to Mrs. R. M. Foot for "White Hill Reckless." *Third* Milking Trial (£2 10s.) to Mrs. R. M. Foot for "White Hill Charming Delight."

CLASS 17.—RED POLL HEIFER.—Entered in or eligible for the Herd Book.

Born on or after 1st August, 1931, and having produced only one calf. *First* Inspection (£5) and *First* Milking Trial (£6) to Sir Guy Hambling, Bart., for "Yoxford Maiden 3rd." *Second* Inspection (£3) and *Second* Milking Trial (£3 10s.) to Mrs. R. M. Foot for "White Hill Monk's Flight." *Third* Inspection (£2) to Sir Guy Hambling, Bart., for "Yoxford Prune 3rd." *Fourth* Inspection (£1) to Brooks (Mistley), Ltd., for "Mistley Pear 2nd." *Third* Milking Trial (£2 10s.) to Lt.-Col. Sir Merrik R. Burrell, Bart., for "Knepp Cowslip 17th." *Fourth* Milking Trial (£1 5s.) to Lt.-Col. Sir Merrik R. Burrell, Bart., for "Knepp Paradise 23rd."

CLASS 18.—BLUE ALBION COW.—Entered in or accepted for the Herd Book or the Supplemental Register. Cows entered in this Class must have yielded a minimum of 8,000 lbs. at five years old or over, or 6,000 lbs. at under five years old either during a lactation period of 45 weeks, or for any one completed year of a recognised Milk Recording Society. No entry.

CLASS 19.—BLUE ALBION HEIFER.—Entered in or eligible for the Herd Book or the Supplemental Register. Born on or after 1st August, 1931, and having produced only one calf. No entry.

CLASS 20.—WELSH BLACK COW.—Entered in or accepted for the Herd Book. Cows entered in this Class must have yielded a minimum of 7,000 lbs. at five years old or over, or 5,250 lbs. at under five years old either during a lactation period of 45 weeks, or for any one completed year of a recognised Milk Recording Society. *First Inspection* (£7), *Extra Inspection* (£5) and *First Milking Trial* (£8 10s.) to Hon. Lady Shelley-Rolls for "Dream," *Second Inspection* (£4) to Hon. Lady Shelley-Rolls for "Gwenphaer," *Third Inspection* (£2) and *Second Milking Trial* (£5) to Hon. Lady Shelley-Rolls for "Topsy 4th."

CLASS 21.—AYRSHIRE COW.—Entered in the Herd Book or Appendices. Cows entered in this Class must have yielded a minimum of 8,000 lbs. at five years old or over, or 6,100 lbs. at under five years old either during a lactation period of 45 weeks, or for any one completed year of a recognised Milk Recording Society. *First Inspection* (£10), *Extra Inspection* (£5) and *First Milking Trial* (£12) to W. A. Thomson for "Dalpeddar East Wind," *Second Inspection* (£5) to T. H. Stallard for "Gerranton Hope 2nd," *Third Inspection* (£3) to J. N. Drummond for "Bargower Silver Bell 5th," *Fourth Inspection* (£1) and *Fourth Milking Trial* (£1 15s.) to J. Turner for "Loaninghead May," *Fifth Inspection* (10s.) to R. Sillars & Son for "Ickham Daphne," *Second Milking Trial* (£6) to Capt. W. B. Dronsfield for "Urioch Brockie 2nd," *Third Milking Trial* (£3 10s.) to J. Baird for "Birnieknowe Artful," *Fifth Milking Trial* (£1) to R. Sillars & Son for "Ickham Carol."

CLASS 22.—AYRSHIRE HEIFER.—Registered or eligible for registration in the Herd Book or Appendices. Born on or after 1st August, 1931, and having produced only one calf. *First Inspection* (£5) and *Third Milking Trial* (£2 10s.) to University of Edinburgh for "Linnhead May Queen 3rd," *Second Inspection* (£3) and *Second Milking Trial* (£3 10s.) to J. Cochrane for "Byreholm Annie Simpson," *Third Inspection* (£2) and *Fifth Milking Trial* (15s.) to J. N. Drummond for "Bargower Queenie 5th," *Fourth Inspection* (£1) and *First Milking Trial* (£6) to J. N. Drummond for "Bargower Miss Donald 7th," *Fifth Inspection* (10s.) to University of Edinburgh for "Linnhead Violet 3rd," *Fourth Milking Trial* (£1 5s.) to R. Sillars & Son for "Ickham Daphne 3rd."

CLASS 23.—GUERNSEY COW.—Entered in or accepted for the Herd Book. Born on or previous to 1st August, 1929. Cows entered in this Class must have yielded a minimum of 8,000 lbs. at five years old or over, or 6,000 lbs. at under five years old, during a lactation period of 45 weeks or for any one completed year of a recognised Milk Recording Society. *First Inspection* (£7), *Extra Inspection* (£5) and *Second Milking Trial* (£5) to R. O. Hambro for "Imperial Countess," *Second Inspection* (£4) to E. D. Fairweather for "Rex's Primrose of Maison De Bas," *Third Inspection* (£2) to C. C. Empson for "Merton Queen of the Fairies," *First Milking Trial* (£8 10s.) to N. R. Steel for "Princess of the Gree," *Third Milking Trial* (£2 10s.) to Exors. of the late Sir Louis Baron, Bart., for "Rose of L'Islet."

CLASS 24.—GUERNSEY COW.—Entered in or accepted for the Herd Book. Born after 1st August, 1929, and which has produced two or more calves. *First Inspection* (£5) and *First Milking Trial* (£6) to Capt. H. J. Pilbrow for "Charlotte of Sous Les Hougues." *Second Inspection* (£3) and *Second Milking Trial* (£3 10s.) to C. Holmes for "Dairymaid of Riduna." *Third Inspection* (£2) to Mrs. F. Sainsbury for "Blunts Garnet." *Third Milking Trial* (£2 10s.) to H. H. Scott for "Hartwell Spring."

CLASS 25.—GUERNSEY HEIFER.—Entered in or eligible for the Herd Book, and which has produced her first and only calf at or under the age of two years and nine months. *First Inspection* (£5) to Capt. H. J. Pilbrow for "Moss Gay 3rd of Mapleton." *Second Inspection* (£3) to Exors of the late Sir Louis Baron, Bart., for "Hewton Lodge Dorine 4th." *Third Inspection* (£2) and *First Milking Trial* (£6) to H. A. Y. Dyson for "Primrose Poltimore of Payhain." *Second Milking Trial* (£3 10s.) to C. Holmes for "Dairy Queen 3rd of Clover Top." *Third Milking Trial* (£2 10s.) to Exors. of the late Sir Louis Baron, Bart., for "Bella's Cora 4th of Les Jetteries."

CLASS 26.—JERSEY COW.—English or Island bred, entered in or accepted for the Herd Book. Born on or previous to 1st August, 1929. Cows entered in this Class must have yielded a minimum of 8,000 lbs. at five years old or over, or 6,000 lbs. at under five years old, either during a lactation period of 45 weeks, or for any one completed year of a recognised Milk Recording Society. *First Inspection* (£7), *Extra Inspection* (£5) and *Second Milking Trial* (£5) to S. S. Lockwood for "Cowslip 5th." *Second Inspection* (£4) to G. McWilliam for "Bollhayes May's Sunrise." *Third Inspection* (£2) to Ovaltine Dairy Farm for "Playmate of Oaklands." *Fourth Inspection* (£1) and *Third Milking Trial* (£2 10s.) to Sir John B. Lloyd for "Hamletta's Mistress." *First Milking Trial* (£8 10s.) to J. W. McCallum for "Sonata." *Fourth Milking Trial* (£1 5s.) to H. C. Pelly for "Primrose 2nd."

CLASS 27.—JERSEY COW.—English or Island bred, entered in or accepted for the Herd Book. Born after 1st August, 1929, and which has produced two or more calves. *First Inspection* (£5) and *Third Milking Trial* (£2 10s.) to E. A. Strauss for "Lady Brenda." *Second Inspection* (£3) and *First Milking Trial* (£6) to H. C. Pelly for "Fontaine's Royal Princess." *Third Inspection* (£2) to Sir John B. Lloyd for "Foxbury Valentine 2nd." *Fourth Inspection* (£1) to J. W. McCallum for "Highstead's Berceuse." *Fifth Inspection* (10s.) to W. B. Tobey for "Wraith." *Second Milking Trial* (£3 10s.) to Mrs. R. M. Foot for "White Hill Happy May." *Fourth Milking Trial* (£1 5s.) to G. McWilliam for "Bollhayes Jolly Bart." *Fifth Milking Trial* (15s.) to Sir Harold Mackintosh for "Golden Bessie."

CLASS 28.—JERSEY HEIFER.—English or Island bred, entered in or eligible for the Herd Book, and which has produced her first and only calf at or under the age of 2½ years. *First Inspection* (£5) and *Second Milking Trial* (£3 10s.) to Mrs. Hayes Sadler for "Charlton Abbotts Oxford's Ulrica." *Second Inspection* (£3) to Mrs. Hayes Sadler for Charlton Abbotts Oxford's Spots." *Third Inspection* (£2) and *First Milking Trial* (£6) to Ovaltine Dairy Farm for "Edna's Spotlight." *Third Milking Trial* (£2 10s.) to M. F. North for "Golden Gem."

CLASS 29.—KERRY COW.—Entered in or accepted for the Herd Book. Cows entered in this class must have yielded a minimum of 6,500 lbs. at five years old or over, or 4,800 lbs. at under five years old, either during a lactation period of 45 weeks or for any one completed year of a recognised Milk Recording Society. *First Inspection* (£5), *Extra Inspection* (£5) and *First Milking Trial* (£6) to H. E. Mitchell for "Ard Cain Dove." *Second Inspection* (£3) to N. R. Steel for "Hattingley Elegance." *Third*

Inspection (£2) to J. W. Towler for "Wadlands Flash Witch 3rd." *Second* Milking Trial (£3 10s.) to H. E. Mitchell for "Cuckfield Pearl." *Third* Milking Trial (£2 10s.) to J. W. Towler for "Ard Caen Rose."

CLASS 30.—KERRY HEIFER.—Entered in or eligible for the Herd Book. Born on or after 1st August, 1931, and having produced only one calf. *First* Inspection (£5) and *First* Milking Trial (£6) to N. R. Steel for "Hookland Brunette." *Second* Inspection (£3) to H. E. Mitchell for "Barrington Gipsy." *Third* Inspection (£2) and *Second* Milking Trial (£3 10s.) to H. E. Mitchell for "Barrington Tulip 2nd."

CLASS 31.—DEXTER COW.—Entered in or accepted for the Herd Book. Cows entered in this class must have yielded a minimum of 5,000 lbs. at five years old or over, or 3,750 lbs. at under five years old, either during a lactation period of 45 weeks or for any one completed year of a recognised Milk Recording Society. *First* Inspection (£5), *Extra* Inspection (£5) and *Second* Milking Trial (£3 10s.) to Lady Loder for "Grinstead Nightingale 3rd." *Second* Inspection (£3) and *First* Milking Trial (£6) to Lady Loder for "Grinstead Hawk 5th." *Third* Inspection (£2) and *Third* Milking Trial (£2 10s.) to Mrs. E. Johnson for "Ashtonhayes Patricia."

CLASS 32.—DEXTER HEIFER.—Entered in or eligible for the Herd Book. Born on or after 1st August, 1931, and having produced only one calf. Cancelled.

BUTTER TESTS.

SHORTHORNS, entered in Classes 1 to 7.—*First* (£10 and Silver Medal) to F. Sainsbury for "Bendish Poppy 9th." *Second* (£5 and Bronze Medal) to Chivers & Sons, Ltd., for "Duchess of Histon 8th." *Third* (£3) to J. O. Fane for "Steventon Grace." *Fourth* (£2) to E. U. Gillate for "Orfold Fancy 13th."

BRITISH FRIESIANS, entered in Classes 8 to 10.—*First* (£10 and Silver Medal) to T. G. Fairhead for "Covenbrook Lively 2nd." *Second* (£5 and Bronze Medal) to C. Ball for "Oakham Dainty." *Third* (£3) to J. & B. Dale for "Felhampton Groundsel." *Fourth* (£2) to C. Ball for "Abingworth Dainty."

SOUTH DEVONS, entered in Classes 11 to 13.—*First* (£10 and Silver Medal) to Miss J. Smith for "Crocus." *Second* (£5 and Bronze Medal) to Dartington Hall, Ltd., for "Manor Dora." *Third* (£3) to J. Rossiter for "Graceful." *Fourth* (£2) to Dartington Hall, Ltd., for "Englebourne Daisy 7th."

RED POLLS, entered in Classes 15 to 17.—*First* (£10 and Silver Medal) to S. Paul for "Samford Witchgirl." *Second* (£5 and Bronze Medal) to C. H. Cearn for "Weston Bell." *Third* (£3) to C. H. Cearn for "Weston Peggy." *Fourth* (£2) to Lt.-Col. Sir Merrik R. Burrell, Bart., for "Knepp Prudence 7th."

AYRSHIRES, entered in Classes 21 and 22.—*First* (£10 and Silver Medal) to Capt. W. B. Dronsfield for "Urioch Brookie 2nd." *Second* (£5 and Bronze Medal) to J. Turner for "Loaninghead May." *Third* (£3) to R. Sillars & Son for "Ickham Carol." *Fourth* (£2) to A. W. Montgomerie for "Cauld-hame Moss 2nd."

GUERNSEYS, entered in Classes 23 to 25.—*First* (£10 and Silver Medal) to C. Holmes for "Dairymaid of Riduna." *Second* (£5 and Bronze Medal) to R. O. Hambro for "Imperial Countess." *Third* (£3) to E. D. Fairweather for "Rex's Primrose of Maison De Bas." *Fourth* (£2) to W. G. Trower for "Stanstead Rose 60th."

JERSEYS, entered in Classes 26 to 28.—*First* (£10 and Silver Medal) to J. W. McCallum for "Sonata." *Second* (£5 and Bronze Medal) to S. S. Lockwood for "Cowslip 5th." *Third* (£3) to H. C. Pelly for "Primrose 2nd." *Fourth* (£2) to E. A. Strauss for "Lady Brenda."

OTHER BREEDS, entered in Classes 14, 18 to 20, and 29 to 32.—Prizes of £3 each to A. J. P. Baker for "Woodrow Fancy" (Devon); H. E. Mitchell for "Cuckfield Pearl" (Kerry); Lady Loder for "Grinstead Nightingale 3rd" (Dexter). Prize of £2 to H. E. Mitchell for "Ard Caein Dove" (Kerry).

BULLS (Progeny of).

CLASS 33.—DAIRY SHORTHORN BULL (Progeny of).—Entered in or eligible for Coates' Herd Book. *First* (£5) to Sir Mark Collet, Bart., for "St. Clere Millicent 11th" and "St. Clere Ruby 6th," progeny of "Bourneplace Lord Pimpernel 2nd." *Second* (£3) to W. H. Vigus for "Revels Roan Annetta" and "Revels Gentle," progeny of "Hawstead Mainspring." *Third* (£2) to F. Chapman for "Chevet Clover" and "Chevet Queen 2nd," progeny of "Longhills Lord Thorndale 8th."

CLASS 34.—LINCOLNSHIRE RED SHORTHORN BULL (Progeny of).—Entered in or eligible for the Herd Book. *First* (£5) to F. R. Wood for "Bendish Ada 15th" and "Bendish Nancy 25th," progeny of "Ketteringham Milkman." *Second* (£3) to F. Sainsbury for "Wratting Sunbeam 2nd" and "Wratting Queen," progeny of "Burton Rose Boy 8th."

CLASS 35.—BRITISH FRIESIAN BULL (Progeny of).—Entered in or eligible for the Herd Book or Supplementary Register. *First* (£5) to G. J. Caddey for "Egham Thelma 4th" and "Egham Titania 6th," progeny of "Golf Roland."

CLASS 36.—RED POLL BULL (Progeny of).—Entered in or eligible for the Herd Book. *First* (£5) to S. Paul for "Kirtion Duplication" and "Kirtion Duplex," progeny of "Kirtion Samson." *Second* (£3) to Lt.-Col. Sir Merrik R. Burrell, Bart., for "Knepp Prudence 11th" and "Knepp Paradise 23rd," progeny of "Meddler Sunshine 2nd."

CLASS 37.—AYRSHIRE BULL (Progeny of).—Entered in or eligible for the Herd Book or Appendices. *First* (£5) to J. Cochrane for "Byreholm Milly" and "Byreholm Annie Simpson," progeny of "Halldykes Willie." *Second* (£3) to J. & J. McIntyre for "Logan Mains Snap" and "Logan Mains Snowball 5th," progeny of "Auchinbay Felstead."

CLASS 38.—GUERNSEY BULL (Progeny of).—Entered in or eligible for the Herd Book. *First* (£5) to Capt. H. J. Pilbrow for "Jaonnets Queen of Mapleton" and "Moss Gay 3rd of Mapleton," progeny of "Gaddesden Rosey's Sequel."

CLASS 39.—JERSEY BULL (Progeny of).—Entered in or eligible for the Herd Book. *First* (£5) to Mrs. R. M. Foot for "White Hill Happy May" and "White Hill Happy Deauvillaise," progeny of "Danbury Hazel." *Second* (£3) to G. McWilliam for "Bollhayes May's Sunrise" and "Bollhayes Jolly Bart," progeny of "Warrior's Cid You'll Do." *Third* (£2) to Mrs. Hayes Sadler for "Charlton Abbotts Oxford's Ulrica" and "Charlton Abbotts Oxford's Spots," progeny of "Velveteen's Oxford."

CLASS 40.—BULL OF ANY OTHER DAIRY BREED (Progeny of).—Entered in or eligible for the Herd Book. *First* (£5) to G. Wills for "Milkmaid 3rd" and "Milkmaid 5th," progeny of "Wychbrook Champion" (South Devon).

SHE GOATS, GOATLINGS AND KITDS.

TROPHIES AND CUPS.

Open to all Breeds.

THE "HOLMES PEGLER JUBILEE" PERPETUAL CHALLENGE TROPHY for the Goat gaining the highest number of points in the Milking Competition and by Inspection. Awarded to Mrs. G. McVay for "Bordeaux Marlene." (British Toggenburg).

THE BRITISH GOAT SOCIETY'S TEN-GUINEA PERPETUAL CHALLENGE CUP for the best Goat over two years that has borne a kid. Awarded to Mrs. W. A. Stirling for "Didgemere Petunia" (British Alpine).

THE "BARONESS BURDETT-COUTTS" PERPETUAL CHALLENGE CUP for the Goat gaining the highest number of points in the Milking Competition and by Inspection. Awarded to A. A. Plimpton for "Wells Pinkpearl" (British Saanen).

THE "TREMEDDA SELENE" PERPETUAL CHALLENGE CUP for the Goat gaining highest points in the Milking Competition, that has given 10 lbs. of milk in 24 hours at any Show under the B.G.S. Rules after January 1st, 1920, or has been shown to have produced at home 10 lbs. of milk on an average for ten days on an officially recognised record. Awarded to Mrs. R. K. Morecom for "Cornish Saccharine" (British).

THE "DEWAR" PERPETUAL CHALLENGE CUP for a Female Goat in Milk, and Goatling. Awarded to Mrs. R. K. Morecom for "Cornish Renown" (British Saanen) and "Cornish Praline" (British Toggenburg).

THE "RIDING" CHALLENGE CUP, offered by the BRITISH GOAT SOCIETY for the best group of three Goats exhibited by the same owner. Awarded to Mrs. W. A. Stirling for "Didgemere Didymons," "Didgemere Petunia" and "Bitterne Domino" (British Alpines).

THE "DEWAR" TWENTY-GUINEA PERPETUAL CHALLENGE TROPHY for the Goat over two years old, other than an Anglo-Nubian, entered in the British Goat Society's Herd Book, gaining the highest number of points in the Milking Competition. Awarded to Mrs. R. K. Morecom for "Cornish Saccharine" (British).

Open only to Toggenburgs.

THE "TOGGENBURG" PERPETUAL CHALLENGE CUP for the Pure Toggenburg Goat or Goatling entered in the Toggenburg Section of the British Goat Society's Herd Book, gaining the highest number of points on Inspection. Awarded to Miss E. Alexander for "Stockwell Calsie."

THE "STRAKER" CHALLENGE CUP for the Toggenburg Goat over two years old, gaining the highest number of points in either of the Milking Competitions. Awarded to Miss M. W. Harrison for "Serinda of Weald."

Open only to British Alpines.

THE "ABBEY" PERPETUAL CHALLENGE CUP for the British Alpine Goat gaining the highest number of points on Inspection and Milking. A goat to compete must be bred by the exhibitor, entered in the British Alpine Section of the British Goat Society's Herd Book, and obtain an award in its Inspection Class. Not awarded.

Open only to Saanens.

THE "SAANEN" CHALLENGE CUP for the Saanen Goat bred by the exhibitor and entered in the Saanen Section of the Herd Book, gaining the highest number of points on Inspection and in Milking. Awarded to Miss C. Booth for "Springfield Lorelei."

Open only to British Saanens.

THE "CHAMBERLAIN" PERPETUAL CHALLENGE TROPHY for the British Saanen Goat gaining the highest number of points on Inspection and Milking. A goat to compete must be bred by the exhibitor, entered in the Saanen or British Saanen Section of the Herd Book, and obtain an award in its Inspection Class. Awarded to Mrs. R. K. Morcom for "Cornish Renown."

Open only to Anglo-Nubians.

THE "POMEROY" PETPETUAL CHALLENGE CUP for the Anglo-Nubian Goat, entered in the Anglo-Nubian Section of the British Goat Society's Herd Book, gaining the highest number of points in the Milking Competition. Awarded to J. R. Egerton for "Malpas Merilees."

Open only to Goatlings.

A BRONZE MEDAL offered by the British Goat Society for the best Goatling in Classes 50 to 54. Awarded to Miss M. G. M. Madoc for "Milverley Merrilees" (British Alpine).

Open only to Kids.

A BRONZE MEDAL offered by the British Goat Society for the best Female Kid in Classes 55 and 56. Awarded to Miss M. G. M. Madoc for "Milverley Maydo" (British).

MILKING TRIAL PRIZES.

CLASS 41.—SHE-GOAT, FIRST KIDDER.—*First* (£6 and Silver Medal) to Mrs. G. McVay for "Bordeaux Marlene" (British Toggenburg). *Second* (£3) to J. R. Egerton for "Malpas Merilees" (Anglo Nubian). *Third* (£1 10s.) to Miss M. Owen for "Mostyn Matchless" (British Saanen). *Fourth* (10s.) to Mrs. R. K. Morcom for "Cornish Saint" (British Toggenburg).

CLASS 42.—SHE-GOATS.—Not eligible for Class 41. *First* (£6 and Silver Medal) to Mrs. R. K. Morcom for "Cornish Saccharine" (British). *Second* (£3) to A. A. Plimpton for "Wells Pinkpearl" (British Saanen). *Third* (£1 10s.) to Miss C. Booth for "Didgemere Salome" (Saanen). *Fourth* (10s.) to Mrs. R. K. Morcom for "Cornish Renown" (British Saanen).

INSPECTION PRIZES.

CLASS 43.—SHE-GOATS, TOGGENBURG, entered or eligible for entry in the Toggenburg Section of the Herd Book.—*First* (£2 10s.) to Miss E. Alexander for "Stockwell Calsie." *Second* (£1 5s.) to Miss M. W. Harrison for "Sandhill Queen." *Third* (15s.) to Miss E. M. Sheppard for "Widdington Willenda." *Fourth* (10s.) to Miss M. Burgess for "Murrayston Clyde."

CLASS 44.—SHE-GOATS, BRITISH ALPINE. *First* (£2 10s.) to Mrs. W. A. Stirling for "Didgemere Petunia." *Second* (£1 5s.) to Mrs. W. A. Stirling for "Didgemere Didymons." *Third* (15s.) to Mrs. W. A. Stirling for "Twinstead Tegus."

CLASS 45.—SHE-GOATS, SAANEN.—Entered or eligible for entry in the Saanen Section of the Herd Book. *First* (£2 10s.) to Miss C. Booth for "Didgemere Salome." *Second* (£1 5s.) to Miss C. Booth for "Springfield Lorelei." *Third* (15s.) to G. E. Walsh for "Didgemere Siren."

CLASS 46.—SHE-GOATS, BRITISH SAANEN. *First* (£2 10s.) to Mrs. R. K. Morcom for "Cornish Renown." *Second* (£1 5s.) to A. A. Plimpton for "Wells Pinkpearl." *Third* (15s.) to Miss M. Owen for "Mostyn Matchless."

CLASS 47.—SHE-GOATS, ANGLO-NUBIAN.—Entered or eligible for entry in the Anglo-Nubian Section of the Herd Book. *First* (£2 10s.) to J. R. Egerton for "Malpas Merilees." *Second* (£1 5s.) to Mrs. Howden for "Theydon Adelaide." *Third* (15s.) to Miss Stoddart for "Tamar Amber."

- CLASS 48.—SHE-GOATS, BRITISH TOGGENBURG.—In milk, any age. *First* (£2 10s.) to Mrs. G. McVay for "Bordeaux Marlene." *Second* (£1 5s.) to Mrs. R. K. Morcom for "Cornish Saint." *Third* (15s.) to H. Nettleton for "Gawthorpe Serene."
- CLASS 49.—SHE-GOATS, ANY OTHER VARIETY.—Not eligible for previous Classes. *First* (£2 10s.) to Mrs. R. K. Morcom for "Cornish Refrain" (British). *Second* (£1 5s.) to Mrs. R. K. Morcom for "Cornish Saccharine" (British). *Third* (15s.) to Miss Stoddart for "Stratvale Tulip." (British).
- CLASS 50.—GOATLINGS, BRITISH ALPINE.—Over 1 year but not exceeding 2 years old. *First* (£2 10s.) to Miss M. G. M. Madoc for "Milverley Merilees." *Second* (£1 5s.) to Mrs. W. Hughes for "Welwyn Shasta." *Third* (15s.) to Mrs. W. A. Stirling for "Bitterne Domino." *Fourth* (10s.) to Mrs. W. A. Stirling for "Twinstead Threepennybit."
- CLASS 51.—GOATLINGS, SAANEN OR BRITISH SAANEN.—Over 1 year but not exceeding 2 years old. *First* (£2 10s.) to Miss M. Owen for "Mostyn Mimosa" (British Saanen). *Second* (£1 5s.) to Miss C. Booth for "Springfield Loveday" (Saanen). *Third* (15s.) to Miss D. Gibbon for "Thundersley Snowbelle" (Saanen). *Fourth* (10s.) to Mrs. W. Hughes for "Welwyn Hawthorn" (British Saanen).
- CLASS 52.—GOATLINGS, ANGLO-NUBIAN.—Entered in or eligible for entry in the Anglo-Nubian section of the Herd Book, over 1 year but not exceeding 2 years old. *First* (£2 10s.) to Mrs. Howden for "Betty of Coltishall." *Second* (£1 5s.) to J. R. Egerton for "Malpas Molly." *Third* (15s.) to Miss M. A. Coskery for "Ardoch Alackaday."
- CLASS 53.—GOATLINGS, TOGGENBURG OR BRITISH TOGGENBURG, over 1 year but not exceeding 2 years old. *First* (£2 10s.) to Mrs. E. Evans for "Aerona" (British Toggenburg). *Second* (£1 5s.) to Mrs. R. K. Morcom for "Cornish Praline" (British Toggenburg). *Third* (15s.) to Miss M. Burgess for "Murrayston Odette" (Toggenburg).
- CLASS 54.—GOATLINGS, ANY OTHER VARIETY, not eligible for previous Classes, over 1 year but not exceeding 2 years old. *First* (£2 10s.) to A. M. Ashbee for "Didgemere Babette" (British). *Second* (£1 5s.) to J. R. Egerton for "Didgemere Delterel" (British). *Third* (15s.) to Miss D. Gibbon for "Thundersley Sunset" (British).
- CLASS 55.—FEMALE KIDS, BRITISH ALPINE, TOGGENBURG, BRITISH TOGGENBURG, SAANEN OR BRITISH SAANEN, not exceeding 1 year. *First* (£2 10s.) to Miss G. M. Madoc for "Milverley Mistaken" (British Alpine). *Second* (£1 5s.) to Miss C. Booth for "Springfield Salvia." (Saanen). *Third* (15s.) to Miss M. G. M. Madoc for "Milverley Myvita" (British Saanen). *Fourth* (10s.) to Miss C. Booth for "Springfield Caryll" (British Saanen).
- CLASS 56.—FEMALE KIDS, ANY OTHER VARIETY, not eligible for Class 54, not exceeding 1 year. *First* (£2 10s.) to Miss M. G. M. Madoc for "Milverley Maydo" (British). *Second* (£1 5s.) to Miss M. Owen for "Mostyn Meecha" (British). *Third* (15s.) to Miss K. R. Barnaby for "Bitterne Favourite" (British). *Fourth* (10s.) to J. R. Egerton for "Malpas Mimoya" (Anglo Nubian).

CHEESE.

TROPHIES AND CUPS.

Open to all Varieties.

THE "LONSDALE" PERPETUAL CHALLENGE TROPHY (presented by the Earl of Lonsdale, K.G., G.C.V.O.) for the best exhibit of Cheese, made on the farm occupied by the Exhibitor, and the product of whole milk produced thereon. Awarded to Gavin and James Love for Ayrshire Dunlop.

Open only to Stilton and Wensleydale.

CHAMPION CUP, value £10 10s. (presented by the CORPORATION OF THE CITY OF LONDON), for the best exhibit of Stilton or Wensleydale Cheese. Awarded to Harby Farmers' Dairy, Ltd., for Stilton.

Open only to Colonial Cheddar.

THE "BLEDISLOE" PERPETUAL CHALLENGE TROPHY, value 50 Guineas (presented by LORD BLEDISLOE, P.C., G.C.M.G., K.B.E.), for the best exhibit of Cheddar Cheese produced in the British Empire (overseas) excluding Irish Free State. Awarded to Thornbury Co-operative Dairy Co., Ltd., New Zealand.

THE "BLEDISLOE" PERPETUAL CHALLENGE CUP, value 50 Guineas (presented by LORD BLEDISLOE, P.C., G.C.M.G., K.B.E.), for the Provincial Area of New Zealand exhibiting the best Cheese. Awarded to the Province of Southland.

THE "HANSEN" CHALLENGE TROPHY, value £25 (presented by MESSRS. CHR. HANSEN'S LABORATORY, LTD.), for the best exhibit of Cheddar Cheese produced in the British Empire (overseas) excluding Irish Free State. Awarded to Thornbury Co-operative Dairy Co., Ltd., New Zealand.

Open only to Cheshire.

THE "BLAND" CHALLENGE CUP (value 20 Guineas) and £5 in cash (presented by MR. C. BLAND) for the best exhibit of Cheshire Cheese. Awarded to W. H. Hobson.

Open only to Small Hard Pressed.

A SILVER FRUIT DISH (presented by MRS. A. S. McWILLIAM, M.B.E.), for the best exhibit of small pressed, quick-ripening cheese. Awarded to T. E. Beckett.

Open only to Inter-County Class.

THE "INTER-COUNTY" CHALLENGE SHIELD (presented by the late JOHN BENSON), for the winner of the Inter-County Cheese Competition.—Not awarded.

Open only to Hard-pressed Varieties other than Stilton, Wensleydale, Cheddar and Cheshire.

CHAMPION CUP, value £10 10s. (presented by the CORPORATION OF THE CITY OF LONDON) for the best exhibit of Hard-pressed Cheese other than Stilton, Wensleydale, Cheddar and Cheshire. Awarded to Gavin and James Love for Ayrshire Dunlop.

CLASS 57.—STILTON (6 Cheeses). Open only to Dairy Farmers. (Factors or Factories not eligible to compete). Cancelled.

CLASS 58.—STILTON (12 Cheeses).—*First* (£10 and Silver Medal) to Harby Farmers' Dairy, Ltd. *Second* (£5) to Emberlin & Co., Ltd., Old Dalby. *Third* (£3) to Wilts. United Dairies, Ltd., Harby.

CLASS 59.—CHEDDAR TRUCKLES (6 Cheeses). *First* (£4) to S. T. White. *Second* (£3) to E. G. White. *Third* (£2) to W. Cole. *Fourth* (£1) to R. A. Perry.

CLASS 60.—CHEDDAR (2 Cheeses, not less than 40 lbs. each).—*First* (£6) to W. H. Collins. *Second* (£4) to E. White. *Third* (£3) to S. T. White. *Fourth* (£2) to F. Portch. *Fifth* (£1) to E. G. White.

CLASS 61.—CHEDDAR AND CHEDDAR TRUCKLES (Long Keeping) (4 Cheeses, not less than 10 lbs. each made on or before 31st July, 1934. *First* (£7) to S. T. White. *Second* (£5) to W. H. Collins. *Third* (£4) to A. H. Hunt. *Fourth* (£3) to G. & J. Love. *Fifth* (£2) to H. H. Pickford. *Sixth* (£1) to Mrs. S. A. Harris.

CLASS 62.—CHEDDAR (8 Cheeses).—*First* (£12 and Silver Medal) to W. Mathie. *Second* (£10) to S. McCollm. *Third* (£7) to S. T. White. *Fourth* (£5) to A. H. Hunt. *Fifth* (£3) to J. B. Sproat. *Sixth* (£1 10s.) to Osborne Bros. *Seventh* (10s.) to J. P. Hunter.

CLASS 63.—SMALL CHEDDAR (4 Cheeses, made at home, not exceeding 10 lbs. each). Open to pupils who have received instruction at an Agricultural College or Farm School during 1933 or 1934.—*First* (£3) to Miss J. Scenescall. *Second* (£2) to L. A. Burfitt. *Third* (£1) to Mrs. E. Marriott. *Fourth* (10s.) to Mrs. E. A. Bamwell.

CLASS 64.—CHEDDAR CHEESE (2 Cheeses, not less than 60 lbs. each) (Coloured or Uncoloured). Open to makers only and produced in the British Empire (Overseas), excluding Irish Free State.—*First* (Gold Medal) to Thornby Co-operative Dairy Co., Ltd., New Zealand. *Second* (Silver Medal) to Downs Co-operative Dairy Association, Ltd., Australia. *Third* (Bronze Medal) to Pahia Co-operative Dairy Co., Ltd., New Zealand.

CLASS 65.—CHESHIRE (8 Cheeses).—*First* (£12) to W. H. Hobson. *Second* (£8) to P. H. Walley. *Third* (£5) to R. Walker. *Fourth* (£4) to O. Hesketh. *Fifth* (£3) to A. E. Walley. *Sixth* (£2) to T. E. Beckett. *Seventh* (£1) to H. Lancaster.

CLASS 66.—CHESHIRE (4 Coloured Cheeses, not less than 40 lbs. each).—*First* (£7) to W. H. Hobson. *Second* (£4) to P. H. Walley. *Third* (£3) to R. Walker. *Fourth* (£2) to H. Barnett. *Fifth* (£1) to W. E. Brake.

CLASS 67.—CHESHIRE (4 Uncoloured Cheeses, not less than 40 lbs. each).—*First* (£6) to A. E. Walley. *Second* (£4) to W. H. Hobson. *Third* (£2) to T. E. Beckett. *Fourth* (£1) to H. S. & W. G. Whittaker.

CLASS 68.—CHESHIRE (Long Keeping) (4 Coloured or Uncoloured Cheeses, not less than 40 lbs. each. Made on or before 31st July, 1934).—*First* (£7) to T. E. Beckett. *Second* (£5) to T. W. Young. *Third* (£4) to Mrs. W. Fearnall. *Fourth* (£3) to P. H. Walley. *Fifth* (£2) to O. Hesketh. *Sixth* (£1) to T. Bourne.

CLASS 69.—CHESHIRE (4 Cheeses not less than 40 lbs. each.) Open only to those who have never won a Prize for Cheshire Cheese at any Show of the British Dairy Farmers' Association.—*First* (£5) to T. Denson. *Second* (£3) to W. Phillips. *Third* (£2) to H. H. Jones. *Fourth* (£1) to H. Brereton.

CLASS 70.—SMALL CHESHIRE (4 Cheeses, made at home, not exceeding 10 lbs. each). Open to Pupils who have received instruction at an Agricultural College or Farm School during 1933 or 1934.—*First* (£3) to Miss M. Denson. *Second* (£2) to H. Barnett. *Third* (£1) to P. Vickers. *Fourth* (10s.) to S. Davies.

CLASS 71.—AYRSHIRE DUNLOPS (4 Cheeses, from 40 lbs. to 60 lbs. each).—*First* (£6) to G. & J. Love. *Second* (£4) to John Sloan. *Third* (£2) to S. McCollm. *Fourth* (£1) to James Sloan.

CLASS 72.—FACTORY (8 Cheeses of not less than 28 lbs. each (any variety), to be manufactured at and exhibited by a recognised Cheese Factory dealing with a minimum of 500 gallons of milk daily in the United Kingdom).—*First* (£7) to Ross's Dairies, Ltd. *Second* (£4) to United Dairies (Scot.), Ltd. *Third* (£2) to Scottish Milk Marketing Board, Sanquhar. *Fourth* (£1) to Ruyton Co-operative Dairies, Ltd., Whittington.

- CLASS 73.—LEICESTER (2 Cheeses).—*First* (£4) to S. Truelove. *Second* (£3) to F. D. Tomlinson. *Third* (£2) to British Dairy Institute.
- CLASS 74.—LANCASHIRE (2 Cheeses, not less than 30 lbs. each).—*First* (£4) to J. Walmsley. *Second* (£3) to J. Lawrenson. *Third* (£2) to W. Metcalf.
- CLASS 75.—LANCASHIRE (Long keeping).—2 Cheeses, not less than 30 lbs. each, made on or before 31st July, 1934. *First* (£5) to G. E. Hewitt. *Second* (£4) to M. Procter. *Third* (£3) to J. Spencer. *Fourth* (£2) to Fylde Creamery, Ltd.
- CLASS 76.—DERBY (4 Uncoloured Cheeses, not less than 25 lbs. each).—*First* (£4) to Cheddar Valley Dairy Co., Ltd. *Second* (£3) to British Dairy Institute. *Third* (£2) to Brailsford and District Dairy Farmers' Association.
- CLASS 77.—DOUBLE GLOUCESTER (4 Cheeses, from 26 lbs. to 30 lbs. each, total weight not to exceed 120 lbs.).—*First* (£4) to W. B. White & Sons. *Second* (£3) to R. A. Perry. *Third* (£2) to S. T. White.
- CLASS 78.—SINGLE GLOUCESTER (4 Cheeses, from 13 lbs. to 15 lbs. each, total weight not to exceed 60 lbs.).—*First* (£4) to S. T. White. *Second* (£3) to F. Portch. *Third* (£2) to G. Barnes.
- CLASS 79.—CAERPHILLY (4 Cheeses, not exceeding 8 lbs. each).—*First* (£4) to Monmouthshire Agricultural Institute. *Second* (£3) to Mrs. S. A. Harris. *Third* (£2) to Cheddar Valley Dairy Co., Ltd.
- CLASS 80.—WENSLEYDALE (6 Blue-moulded Cheeses).—*First* (£4) to British Dairy Institute. *Second* (£3) to A. Rowntree & Sons, Middleham. *Third* (£2) to J. Icton.
- CLASS 81.—SMALL HARD PRESSED (4 Long-keeping Cheeses, not exceeding 8 lbs. each).—*First* (£5) to S. T. White. *Second* (£3) to B. H. J. W. White. *Third* (£2) to Miss M. Denson. *Fourth* (£1) to T. Denson. *Fifth* (10s.) to Miss E. Fitton.
- CLASS 82.—SMALL HARD PRESSED (4 Quick-ripening Cheeses, not exceeding 8 lbs. each).—*First* (£5) to T. E. Beckett. *Second* (£3) to S. T. White. *Third* (£2) to T. Beech. *Fourth* (£1) to F. W. Hesketh. *Fifth* (10s.) to H. S. & W. G. Whittaker.
- CLASS 83.—INTER-COUNTY COMPETITION for the best collection of 8 Smallholder Cheeses not exceeding 8 lbs. each, made by four individual persons in their own dairies, and who have received instruction in Cheesemaking at a County Council Cheese School.—Cancelled.
- CLASS 84.—SWEET CREAM CHEESE, made from pure Cream only. No milk or curd to be added (6 Cheeses of approximately 4 ozs. each).—*First* (£1) to S. E. Butler. *Second* (15s.) to W. B. C. Tregarthen. *Third* (10s.) to Miss N. M. Lloyd.
- CLASS 85.—UNRIPENED SOFT CHEESE, other than Cream Cheese made direct from Milk (4 Cheeses of approximately 8 ozs. each).—*First* (£1) to J. H. N. Roberts. *Second* (15s.) to Miss E. M. Allday. *Third* (10s.) to Studley College Dairy.

COLLECTION OF PRODUCE.

- CLASS 86.—Open only to individual Women's Institutes. To consist of 1 lb. Fresh Butter; 1 Trussed Fowl; 8 ozs. of Cream (raw or scalded); 8 ozs. Cream Cheese (either in two packets of 4 ozs. each, or one packet of 8 ozs.) and 1 doz. Eggs. The Collection to be packed in a box and sent to the Show by Parcel Post. Packages taken into consideration when making awards.—*First* (£5) to Slad Women's Institute. *Second* (£3) to Inkpen Women's Institute. *Third* (£2) to Truro Women's Institute.

BACON.

Cups, Open only to Bacon-Pig Classes.

- THE "C. & T. HARRIS (CALNE), LTD." PERPETUAL CHALLENGE CUP, presented by MESSRS. C. & T. HARRIS (CALNE), LTD., for the four best sides of Wiltshire Bacon in any one entry in Classes 92, 93, 94, or 95. Awarded to T. L. Ward (Large White).
- THE "WHITLEY" CHALLENGE CUP, value 20 Guineas (presented by the late MR. S. R. WHITLEY), for the first prize winner in Class 92. Awarded to A. E. Law (Large White).
- THE "BEALE" CHALLENGE CUP, value 20 Guineas (presented by CAPT. B. P. BEALE, M.C.), for the first prize winner in Class 93. Awarded to The Earl of Radnor (Large White).
- THE "BLEDISLOE" BACON CHALLENGE CUP, value 20 Guineas (presented by LORD BLEDISLOE, P.C., G.C.M.G., K.B.E.), for the first prize winner in Class 94. Awarded to E. Harding (Large White and Wessex).
- THE "PIG RECORDING" CHALLENGE CUP, value 20 Guineas (presented by MR. WILLIAM DAVIDSON), for the exhibit gaining the highest number of marks in Class 95, which reaches the standard of a First Class Award. Awarded to T. L. Ward (Large White).
- CLASS 87.—ROLLED BACON WITH RIND ON. (Open only to Curers in Northern Ireland). Three Rolls to be exhibited, each weighing approximately from 32 lbs. to 35 lbs., 40 lbs. to 45 lbs., and 50 lbs. to 56 lbs. Rolls to be of the pale description and not smoked. No entry.
- CLASS 88.—ROLLED BACON WITHOUT RIND (Ayrshire or Scottish). Two Rolls to be exhibited, each weighing approximately from 24 lbs. to 28 lbs., and 30 lbs. to 35 lbs. Rolls to be of the pale description and not smoked. Cancelled.
- CLASS 89.—FOUR SMOKED SIDES, Mild Cured in Wiltshire Style, with Ham attached. Cancelled.
- CLASS 90.—FOUR PALE DRIED SIDES, Mild Cured in Wiltshire Style, with Ham attached. Cancelled.
- CLASS 91.—TWO SIDES OF BACON SMOKED, TWO SIDES OF BACON PALE DRIED, TWO HAMS SMOKED, AND TWO HAMS PALE DRIED (the weight of the sides not less than 56 lbs. and not more than 68 lbs. each. The Hams not less than 12 lbs. and not more than 20 lbs. each. No entry.
- CLASS 92.—BACON PIGS.—Two Hogs and two Gilts, farrowed on or after 1st March, 1934, by a Registered Sire and out of a Registered Dam of the same Breed.—*First* ("Whitley Cup" and £12) to A. E. Law (Large White). *Second* (£6) to H. R. Davidson (Large White). *Third* (£3) to H. Neaverson (Large White).
- CLASS 93.—BACON PIGS (PEDIGREE). (One Hog and one Gilt, farrowed on or after 1st March, 1934, by a Registered Sire and out of a Registered Dam of the same Breed. *First* ("Beale" Cup and £5) to Earl of Radnor (Large White). *Second* (£3) to Hertfordshire Institute of Agriculture. (Large White). *Third* (£2) to Chivers & Sons, Ltd. (Large White).
- CLASS 94.—BACON PIGS—FIRST CROSS (One Hog and one Gilt, farrowed on or after 1st March, 1934, by a Pure-bred Sire and out of a Pure-bred Dam, the evidence required being the eligibility to register. *First* ("Bledisloe" Cup and £5) to E. Harding (Large White and Wessex). *Second* (£3) to E. A. Warth (Large White and Large Black). *Third* (£2) to A. E. Law (Large White and Middle White).

CLASS 95.—BACON PIGS—RECORDED. (Two Hogs and two Gilts from the same litter. One parent of the litter must be pure-bred, the evidence required being the eligibility to register).—Two *First Class Awards* (£4 each) to T. L. Ward (Large White and Large Black). One *Second Class Award* (£2) to H. R. Davidson (Large White). One *Second Class Award* (£2) to Earl of Radnor (Large White).

CLASS 96.—FOUR SIDES OF BACON, suitable for the London Market. Produced in the British Empire (Overseas), excluding Irish Free State. Open to Curers only.—*First Prize* (Silver Medal) to Canada Packers' Ltd., Canada. *Second Prize* (Bronze Medal) to Farmers' Co-operative Bacon Factory, Ltd., South Africa.

HAMS.

CLASS 97.—FOUR PALE DRIED (long cut, of Winter or Spring cure, not over 14 lbs. weight).—*First* (Silver Medal) and *Second* (Bronze Medal) to J. E. Downs & Sons.

CLASS 98.—FOUR PALE DRIED (long cut, of Winter or Spring cure, over 14 lbs. weight).—*First* (Silver Medal) to John A. Hunter & Co., Ltd. *Second* (Bronze Medal) to J. E. Downs & Sons.

CLASS 99.—FOUR SMOKED (long cut, mild cured, not over 10 weeks cured, not over 15 lbs. weight).—*First* (Silver Medal) and *Second* (Bronze Medal) to J. E. Downs & Sons.

CLASS 100.—FOUR PALE DRIED (long cut, mild cured, not over 10 weeks cured, over 15 lbs. weight).—*First* (Silver Medal) and *Second* (Bronze Medal) to John A. Hunter & Co., Ltd.

CLASS 101.—SELLING CLASS FOR TWO HAMS, ANY VARIETY.—*First* (£2), *Second* (£1) and *Third* (10s.) to John A. Hunter & Co., Ltd.

BUTTER.

(Open to Makers only residing in any part of Great Britain or Ireland).

Cup for 2 lb. Butter Classes.

CHAMPION CUP, value £10 10s. (presented by the CORPORATION OF THE CITY OF LONDON), for the best exhibit of Butter in Classes 102 to 109 inclusive. Awarded to Miss H. D. Varker.

CLASS 102.—SLIGHTLY SALTED, open only to farmers, their wives, sons and daughters, occupying not exceeding 100 acres, and who have never won a Prize in the Butter Classes at any of the Association's Shows; 2 lbs. in 1 lb. lumps (brick shape).—*First* (£3) to J. Laverack. *Second* (£2) to Miss M. W. Gwennap. *Third* (£1) to Miss I. G. Roach.

CLASS 103.—PERFECTLY FREE FROM SALT, the produce of Channel Islands Cattle and their Crosses; 2 lbs. in 1-lb. lumps (brick shape).—*First* (£3) to Miss H. D. Varker. *Second* (£2) to Mrs. J. Mogford. *Third* (£1) to Mrs. G. E. Blackler.

CLASS 104.—SLIGHTLY SALTED, the produce of Channel Islands Cattle and their Crosses; 2 lbs. in 1-lb. lumps (brick shape).—*First* (£3) to Mrs. A. G. Dennis. *Second* (£2) to Mrs. J. Mogford. *Third* (£1) to Miss M. M. Varker.

CLASS 105.—PERFECTLY FREE FROM SALT, the produce of Shorthorn and other Cattle and their Crosses (except Channel Islands and their Crosses); 2 lbs. in 1-lb. lumps (brick shape).—*First* (£3) to Miss A. M. Ward. *Second* (£2) to Mrs. A. G. Dennis. *Third* (£1) to Mrs. G. E. Blackler.

- CLASS 106.—SLIGHTLY SALTED, the produce of Shorthorn and other Cattle and their Crosses (except Channel Islands and their Crosses); 2 lbs. in 1-lb. lumps (brick shape).—*First* (£3) to Mrs. A. G. Dennis. *Second* (£2) to Mrs. G. E. Blackler. *Third* (£1) to Mrs. J. Mogford. *Fourth* (10s.) to Miss F. Irving.
- CLASS 107.—SLIGHTLY SALTED, to be made from Scalded Cream only; 2 lbs. in 1-lb. lumps (brick shape).—*First* (£3) to Mrs. P. Roach. *Second* (£2) to Miss A. M. Ward. *Third* (£1) to Mrs. A. G. Dennis.
- CLASS 108.—PERFECTLY FREE FROM SALT, to be made from Scalded Cream only; 2 lbs. in 1-lb. lumps (brick shape).—*First* (£3) to Mrs. A. G. Dennis. *Second* (£2) to Mrs. J. Mogford. *Third* (£1) to Mrs. G. E. Blackler.
- CLASS 109.—ESPECIALLY FOR KEEPING, slightly Salted; 2 lbs. in 1-lb. lumps (brick shape).—*First* (£3) to Mrs. G. E. Blackler. *Second* (£2) to Mrs. J. Mogford. *Third* (£1) to Miss P. Varker.
- CLASS 110.—SLIGHTLY SALTED, made from Goats' Milk (butter colouring may be used), 1 lb. in $\frac{1}{2}$ -lb. lumps (brick shape). *First* (£1 10s.) to Miss M. W. Harrison. *Second* (£1) to E. Cuffe. *Third* (10s.) to Miss V. F. Harrison.
- CLASS 111.—SLIGHTLY SALTED, in boxes of 12 bricks of 1 lb. each. Packages (non-returnable) taken into consideration (wrapping allowed).—*First* (£3) to Shana Golden Co-operative Dairy Society, Ltd., *Second* (£2) to Herbertstown Co-operative Agricultural & Dairy Society, Ltd. *Third* (£1) to Castlelyons Co-operative Creamery, Ltd. *Fourth* (10s.) to Boherlahan Co-operative Agricultural & Dairy Society, Ltd.
- CLASS 112.—FREE FROM SALT, in 24-lb. boxes of 12 rolls. Packages (non-returnable) to be taken into consideration. The Rolls to be separately wrapped, in transparent greaseproof paper.—*First* (£3) to Garryspillane Creamery. *Second* (£2) to Shanagolden Co-operative Dairy Society, Ltd. *Third* (£1) to Kilross Co-operative Dairy Society, Ltd. *Fourth* (10s.) to M. L. Oats.
- CLASS 113.—MILD CURED, slightly Salted, in boxes of 24 rolls of 1 lb each. Packages (non-returnable) to be taken into consideration. Wrapping allowed. *First* (£3) to Garryspillane Creamery. *Second* (£2) to Oola Co-operative Creamery, Ltd. *Third* (£1) to Glenwilliam Co-operative Dairy Society, Ltd. *Fourth* (10s.) to Shanagolden Co-operative Dairy Society, Ltd.
- CLASS 114.—CURED, 28 lbs., slightly Salted. Packages (non-returnable) to be taken into consideration. *First* (£3) to Kilmallock Co-operative Creamery. *Second* (£2) to Kilross Co-operative Dairy Society, Ltd. *Third* (£1) to Garryspillane Creamery. *Fourth* (10s.) to Dromkeen Creamery.
- CLASS 115.—CURED, 56 lbs. Packages (non-returnable) to be taken into consideration. *First* (£3) to Oola Co-operative Creamery, Ltd. *Second* (£2) to Garryspillane Creamery. *Third* (£1) to Herbertstown Co-operative Agricultural and Dairy Society, Ltd. *Fourth* (10s.) to Kilross Co-operative Dairy Society, Ltd.
- CLASS 116.—TWO POUNDS, made up in the most attractive form for Table use. Scotch hands, moulds, &c., may be used for shaping the Butter (touching it directly by the human hand is prohibited). Exhibits, shown on a space 1 foot square, will be judged on quality as well as appearance. *First* (£4) to Mrs. A. G. Dennis. *Second* (£2) to Mrs. E. B. Beer. *Third* (£1) to Miss H. M. Trenchard.
- CLASS 117.—FANCY OR ORIENTAL DESIGN, with foliage or other extraneous decoration. *First* (£4) to Miss H. M. Trenchard. *Second* (£2) to Mrs. E. B. Beer. *Third* (£1) to Miss M. Joslin.

(Produced in the British Empire (Overseas), excluding Irish Free State).

Open to Makers only.

CLASS 118.—SALTED, one cube box, containing not less than 56 lbs.—*First* (Gold Medal) to Maryborough Co-operative Dairy Association, Ltd., Australia. *Second* (Silver Medal) to Esk Co-operative Dairy Association, Ltd., Australia. *Third* (Bronze Medal) to Casino Co-operative Dairy Society, Ltd.

CLASS 119.—UNSALTED, one cube box containing not less than 56 lbs.—*First* (Gold Medal) to Foley Bros., Ltd., Australia. *Second* (Silver Medal) to Gunbower Co-operative Butter Factory and Trading Co., Ltd., Australia. *Third* (Bronze Medal) to Maryborough Co-operative Dairy Association, Ltd., Australia.

CREAM.

CLASS 120.—CLOTTED CREAM, with a fat content of not less than 50 per cent. and not more than 55 per cent., to be exhibited in vessels supplied by the British Dairy Farmers' Association. Open only to Wholesale Creameries and Factories. *First* (£2 and Silver Medal) to W. White & Son. *Second* (£1) to M. L. Oats. *Third* (10s.) to Wilts. United Dairies, Ltd.

CLASS 121.—CREAM. Each exhibit to contain one vessel of pasteurized cream with fat content of not less than 50 per cent. and not more than 55 per cent.; one vessel of pasteurized, homogenized cream with fat content not less than 25 per cent. and not more than 30 per cent., and one vessel of pasteurized, homogenized cream with a fat content of not less than 15 per cent. and not more than 20 per cent. The vessels to be supplied by the British Dairy Farmers' Association. Open only to Wholesale Creameries and Factories. *First* (£2 and Challenge Cup) to Egginton Dairy. *Second* (£1) to A. Stapleton & Sons, Ltd. *Third* (10s.) to W. White & Son.

CLASS 122.—CLOTTED CREAM, with a fat content of not less than 50 per cent. and not more than 55 per cent., to be exhibited in vessels supplied by the British Dairy Farmers' Association. Not open to Wholesale Creameries and Factories. *First* (£2 and Silver Medal) to Mrs. E. White. *Second* (£1) to Mrs. E. M. Beer. *Third* (10s.) to W. R. Beer.

CLASS 123.—CREAM, OTHER THAN CLOTTED, with a fat content of not less than 50 per cent. and not more than 55 per cent., to be exhibited in vessels supplied by the British Dairy Farmers' Association. Not open to Wholesale Creameries and Factories. *First* (£2 and Silver Medal) to J. M. Fraser. *Second* (£1) to C. Russell. *Third* (10s.) to J. B. Walford.

BOTTLED FRUITS, VEGETABLES AND JAMS.

SILVER MEDAL of the British Dairy Farmers' Association for the best Exhibit in Classes 124 to 133 awarded the Mrs. P. E. Smith.

CLASS 124.—SIX BOTTLES OF SOFT FRUIT, of not less than 4 varieties. Cancelled.

CLASS 125.—SIX BOTTLES OF STONE FRUIT, of not less than 4 varieties.—*First* (£2) to Mrs. P. E. Smith. *Second* (£1) to Miss Alden. *Third* (10s.) to Miss F. S. Hole.

CLASS 126.—THREE BOTTLES OF SOFT FRUIT (distinct).—*First* (£1) to Miss F. S. Hole. *Second* (10s.) to Mrs. S. Roberts. *Third* (7s. 6d.) to Miss Alden.

CLASS 127.—THREE BOTTLES OF STONE FRUIT (distinct).—*First* (£1) to Mrs. M. E. Daun. *Second* (10s.) to Mrs. H. Palmer. *Third* (7s. 6d.) to Mrs. P. E. Smith.

CLASS 128.—THREE BOTTLES OF STONE OR SOFT FRUIT (distinct).—Preserved in Syrup.—*First* (£1) to Mrs. M. E. Daun. *Second* (10s.) to Mrs. A. Skeate. *Third* (7s. 6d.) to Mrs. Leach.

- CLASS 129.—THREE CANS OF STONE OR SOFT FRUIT (distinct).—Preserved in Syrup.—*First* (£1) to Miss M. E. Rivers. *Second* (10s.) to Miss E. A. Smith. *Third* (7s. 6d.) to Miss M. L. Hope.
- CLASS 130.—SIX BOTTLES OF VEGETABLES, of not less than 4 varieties (Tomatoes admitted).—Cancelled.
- CLASS 131.—THREE BOTTLES OF VEGETABLES (distinct).—*First* (£1) to Mrs. P. E. Smith. *Second* (10s.) to Mrs. Leach. *Third* (7s. 6d.) to Mrs. H. C. Noel.
- CLASS 132.—THREE CANS OF VEGETABLES (distinct). Cancelled.
- CLASS 133.—THREE JARS OF JAM (1 lb. each), dissimilar (any variety).—*First* (£1) to Mrs. E. Parker. *Second* (10s.) to Miss G. Watson. *Third* (7s. 6d.) to Miss F. S. Hole.
- CLASS 134.—CO-OPERATIVE EXHIBIT OF BOTTLED FRUITS (Preserved in plain water or Syrup), VEGETABLES, JAMS, FRUIT, JELLIES, PICKLES AND CHUTNEYS. Open only to individual Women's Institutes. Each Exhibit to be the work of not less than four Members. To consist of 3 bottles of Soft Fruit, 3 bottles of Stone Fruit, 3 bottles of Vegetables, 3 1-lb. jars of Jam or Fruit Jelly, 3 jars of Pickles or Chutney. All exhibits to be shown in glass containers and to be of not less than two varieties.—*First* (£5) to Snape Women's Institute. *Second* (£3) to Albourne Women's Institute. *Third* (£2) to Frensham Women's Institute.

HONEY, WAX, &c.

- CLASS 135.—SIX JARS OF LIGHT HONEY, three each of 1 lb. and $\frac{1}{2}$ lb. (Ministry of Agriculture and Fisheries Registered Design 761017). National Mark Labels to be attached.—*First* (£2) to J. Salt. *Second* (£1 10s.) to W. S. Basnett. *Third* (£1) to H. Gerrard. *Fourth* (15s.) to W. J. Goodrich.
- CLASS 136.—SIX JARS OF MEDIUM OR DARK HONEY, three each of 1 lb. and $\frac{1}{2}$ lb. (Ministry of Agriculture and Fisheries Registered Design 761017). National Mark Labels to be attached. *First* (£2) to W. S. Basnett. *Second* (£1 10s.) to A. Underwood. *Third* (£1) to H. Gerrard. *Fourth* (15s.) to J. Salt.
- CLASS 137.—SIX JARS OF EXTRACTED LIGHT-COLOURED HONEY (1 lb. each, approximate weight).—*First* (£1) to W. S. Basnett. *Second* (15s.) to J. Salt. *Third* (12s. 6d.) to H. Gerrard. *Fourth* (10s.) to E. G. Bastable.
- CLASS 138.—SIX JARS OF EXTRACTED MEDIUM-COLOURED HONEY excluding Heather Honey (1 lb. each approximate weight).—*First* (£1) to H. Gerrard. *Second* (15s.) to W. S. Basnett. *Third* (12s. 6d.) to J. Salt. *Fourth* (10s.) to H. S. Barter.
- CLASS 139.—SIX JARS OF EXTRACTED DARK-COLOURED HONEY excluding Heather Honey (1 lb. each, approximate weight).—*First* (£1) to W. S. Basnett. *Second* (15s.) to J. Salt. *Third* (12s. 6d.) to Miss B. S. Gibson. *Fourth* (10s.) to A. E. Warren.
- CLASS 140.—SIX JARS OF GRANULATED HONEY excluding Heather Honey (1 lb. each, approximate weight).—*First* (£1) to A. Underwood. *Second* (15s.) to W. J. Goodrich. *Third* (12s. 6d.) to Capt. C. F. Dixon-Johnson. *Fourth* (10s.) to W. S. Basnett.
- CLASS 141.—SIX JARS OF EXTRACTED HEATHER HONEY (1 lb. each, approximate weight).—*First* (£1) to J. Fisher. *Second* (15s.) to E. Hornby. *Third* (12s. 6d.) to G. H. Leng. *Fourth* (10s.) to S. H. Hunt.
- CLASS 142.—SIX SECTIONS OF COMB HONEY excluding Heather Honey (size $4\frac{1}{2}$ by $4\frac{1}{2}$, approximate weight, 1 lb.).—*First* (£1) to H. S. Barter. *Second* (15s.) to H. Gerrard. *Third* (10s.) to W. S. Basnett.

CLASS 143.—SIX SECTIONS OF HEATHER HONEY (size $4\frac{1}{2}$ by $4\frac{1}{2}$, approximate weight 1 lb.).—*First* (£1) to C. H. Potter. *Second* (15s.) to Capt. C. F. Dixon-Johnson. *Third* (10s.) to H. S. Barter.

CLASS 144.—DISPLAY OF HONEY AND HONEY PRODUCTS of any year, staged in the most attractive form on a space 3 feet by 3 feet and height not to exceed 4 feet above the table. The Products not including mirrors or sheet glass to be above 50 lbs. but not exceeding 100 lbs. in weight. No flowers allowed.—*First* (£5) to W. S. Basnett. *Second* (£2) to H. S. Barter. *Third* (£1) to A. J. Bates.

CLASS 145.—ONE SHALLOW-FRAME OF COMB HONEY (suitable for extracting). *First* (15s.) to W. S. Basnett. *Second* (10s.) to H. Gerrard. *Third* (7s. 6d.) to H. S. Barter.

CLASS 146.—EXHIBIT OF NOT LESS THAN 2 LBS. OF BEES' WAX, in not more than two cakes, the produce of the Exhibitor's Apiary; extracted and cleaned by the Exhibitor or his assistants.—*First* (15s.) to E. G. Bastable. *Second* (10s.) to H. S. Barter. *Third* (7s. 6d.) to R. Edmondson.

CLASS 147.—INTERESTING AND INSTRUCTIVE EXHIBIT OF A PRACTICAL OR SCIENTIFIC NATURE CONNECTED WITH BEE CULTURE (not mentioned in the foregoing classes).—*First* (15s.) to C. H. Potter for Section Rack. *Second* (10s.) to W. S. Basnett for Appliance for producing well-drawn-out section. *Third* (7s. 6d.) to H. S. Barter for Waxed covering for bees in hive.

CLASS 148.—THREE VESSELS OF EXTRACTED HONEY, as imported.—Produced in the British Empire (Overseas), excluding Irish Free State. Cancelled.

INVENTIONS, &c.

CLASS 149.—ANY NEW APPARATUS OR INVENTION relating to the Dairy Industry, or one showing distinct and practical improvement, especially as to saving of labour, not eligible for competition in any other Class and not previously having received an Award at any Show of the British Dairy Farmers' Association.—Gold Medal to Dairy Supply Co., Ltd., for "Alfa Laval" hermetically enclosed foamless power cream separator.

CLASS 150.—LIGHT PORTABLE WEIGHING MACHINE, suitable for use on a Pig Farm and capable of weighing up to 300 lbs. Price in relation to efficiency to be taken into consideration. *First* (£3 and Silver Medal) and *Second* (£2 and Bronze Medal) to George Salter & Co., Ltd.

CLASS 151.—ANY NEW APPARATUS OR INVENTION relating to the Poultry Industry, or one showing distinct and practical improvement, especially as to saving of labour, not eligible for competition in any other Class and not previously having received an award at any Show of the British Dairy Farmers' Association.—Silver Medals to Bingham Patent Poultry Plucker for Double Drive Super Poultry Plucking Machine; Secura Incubator Co., Ltd., for Hot Water Boiler heated by oil, gas or electricity. Bronze Medals to W. Gardner for Electric Chicken Brooder Radiator; Cope & Cope, Ltd., for Wet Mash Mixing Machine; F. W. Reddaway for Regal Fumeless Brooder.

JUNKET-MAKING CONTESTS.

THE "DAILY MAIL" PERPETUAL CHALLENGE BOWL (presented by the PROPRIETORS OF THE "DAILY MAIL") for the Champion Junketmaker.—Awarded to Miss Jane M. Olde.

CLASS 152.—JUNKET MADE WITH MILK.—Open only to those who have never won a First Prize for Junket-making at any Shows of the British Dairy Farmers' Association.

SECTION A.—*First* (£2) to Miss J. M. Bickley. *Second* (£1) to Miss F. M. Besley. *Third* (10s.) to Miss D. Browning.

SECTION B.—*First* (£2) to Miss E. Abbott. *Second* (£1) to Miss P. Jones. *Third* (10s.) to Miss P. Emberton.

SECTION C.—*First* (£2) to Miss M. A. Edwards. *Second* (£1) to Miss M. Mill. *Third* (10s.) to Miss A. O. Mitchell.

CLASS 153.—CHAMPION CONTEST.—Open to First Prize Winners in the Sections of the preceding Class and to First Prize Winners at previous Shows of the British Dairy Farmers' Association, Champion of any year excepted.—*Prize* ("Daily Mail" Challenge Bowl and Silver Medal) to Miss Jane M. Olde.

BUTTER-MAKING CONTESTS.

THE "DESBOROUGH" PERPETUAL CHALLENGE CUP (presented by LORD DESBOROUGH, K.G., G.C.V.O.), for the Champion Buttermaker.—Awarded to Miss A. O. Mitchell.

CLASS 154.—Open to those who have never won a Prize prior to September 10th, 1934, at any Show, wherever held.

SECTION A.—*First* (£4) to Miss A. W. James. *Second* (£3) to Miss A. Peel. *Third* (£2) to Miss R. Hambly. *Fourth* (£1) to Miss P. Crump.

SECTION B.—*First* (£4) to Miss P. Munton. *Second* (£3) to Miss D. Morris. *Third* (£2) to Miss I. L. Eccles. *Fourth* (£1) to Miss P. Davies.

CLASS 155.—Open to Students who have attended Classes at the British Dairy Institute, Reading, for not less than one month, during the past two years.—*First* (£4) to Miss J. Grindon. *Second* (£3) to Miss E. L. Coleman. *Third* (£2) to I. G. P. Roberts. *Fourth* (£1) to Miss R. Hambly.

CLASS 156.—For Men and Women who have never won a First Prize at any Show of the British Dairy Farmers' Association.

SECTION A.—*First* (£4) to Miss M. D. Morris. *Second* (£3) to Miss F. Lewis. *Third* (£2) to Miss D. Edwards. *Fourth* (£1) to Mrs. E. V. Gully.

SECTION B.—*First* (£4) to Miss W. M. Reynolds. *Second* (£3) to Mrs. M. K. Barker. *Third* (£2) to Miss K. Colwill. *Fourth* (£1) to Miss V. Jones.

SECTION C.—*First* (£4) to Miss O. Eustice. *Second* (£3) to Miss E. B. Lewis. *Third* (£2) to Miss J. Williams. *Fourth* (£1) to Miss M. W. Gwennap.

SECTION D.—*First* (£4) to Miss G. D. Matthews. *Second* (£3) to Miss N. Roderick. *Third* (£2) to Miss C. M. Lee. *Fourth* (£1) to Miss M. M. Haley.

SECTION E.—*First* (£4) to Miss N. Jones. *Second* (£3) to Miss J. Phipps. *Third* (£2) to Miss E. Llewellyn. *Fourth* (£1) to Miss K. Crow.

SECTION F.—*First* (£4) to Miss N. Hutton. *Second* (£3) to Miss J. M. Olde. *Third* (£2) to Miss B. P. Jones. *Fourth* (£1) to Miss M. Tidd.

CLASS 157.—CHAMPION CONTEST.—Open to Winners of First Prizes in the Sections of preceding Classes and at any of the last three Shows of the British Dairy Farmers' Association, Champion of any year excepted.—*First* ("Desborough" Challenge Cup and Silver Medal) to Miss A. O. Mitchell. *Second* (£3 and Bronze Medal) to Miss G. D. Matthews.

MILKERS' CONTESTS.

CLASS 158.—Open to Men and Women of 18 years and over.

SECTION A.—*First* (£5) to L. J. Pickett. *Second* (£4) to P. G. Matthews. *Third* (£3) to E. C. Bull. *Fourth* (£1) to A. W. Culley.

SECTION B.—*First* (£5) to W. Edge. *Second* (£4) to F. C. Nicholls. *Third* (£3) to G. A. Graham. *Fourth* (£1) to J. A. Dandy.

SECTION C.—*First* (£5) to Miss M. Davies. *Second* (£4) to R. Head. *Third* (£3) to T. Maunders. *Fourth* (£1) to R. E. Billington.

SECTION D.—*First* (£5) to Mrs. D. Wheatley. *Second* (£4) to H. Lingford. *Third* (£3) to Miss N. Simcock. *Fourth* (£1) to Miss G. Parry.

CLASS 159.—Open to Boys and Girls under 18 years.—*First* (£5) to K. Rosewell. *Second* (£4) to Miss E. M. Parsons. *Third* (£3) to H. T. Ford. *Fourth* (£1) to H. F. Pain.

CLASS 160.—Open only to Herdsmen attending Cattle at the 1934 Dairy Show.
—*First* (£4) to C. W. Cherry. *Second* (£3) to Miss A. Gill. *Third* (£2) to J. W. Rockett. *Fourth* (£1) to W. Hanney. *Fifth* (10s.) to A. J. Hitchcock. *Sixth* (5s.) to G. Scott.

CLASS 161.—CHAMPION CONTEST.—Open to Winners of First Prizes in the Sections of Class 158 and Classes 159 and 160. Also to First Prize Winners at the 1933 Dairy Show of the British Dairy Farmers' Association. Champions of any year excepted.—*First* (Cup, Gold Medal and £2) to Miss M. Davies. *Second* (Silver Medal and £1) to W. Edge.

COW-JUDGING CONTEST.

CLASS 162.—Open to Teams of Students from Agricultural Colleges, Farm Institutes, and County Council Classes. Prize (British Dairy Farmers' Association's Challenge Cup) to Llysfasi Farm Institute. Silver Medals to G. Evans, L. Jones and T. J. Williams—Members of winning team. Bronze Medals to J. L. Thomas, G. Weller and E. Puttock—Members of the Surrey County Council team awarded Reserve.

LIST OF JUDGES AT THE 1934 DAIRY SHOW

MILKING TRIALS.

- T. J. DRAKELEY, Ph.D., M.Sc., F.C.S., F.I.C., 28, Russell Square, W.C. 1.
 J. MACKINTOSH, National Institute for Research in Dairying, Shinfield, near Reading.
 E. W. S. PRESS, B.Sc., A.I.C., F.C.S., 252, Caledonian Road, N. 1.
 H. G. ROBINSON, The Midland Agricultural College, Sutton Bonington, Loughborough.

BUTTER TESTS.

- R. H. EVANS, B.Sc., Barclays Bank Chambers, Pwllheli, North Wales.
 J. G. W. STAFFORD, The Midland Agricultural College, Sutton Bonington, Loughborough.

"BLEDISLOE" CHALLENGE TROPHY.

WALTER WILSON, Newby Brow, Kendal, Westmorland.

SUPREME INDIVIDUAL CHAMPIONSHIP CHALLENGE TROPHY

A. WEIGHTMAN, Middle Herrington Farm, Sunderland.

CATTLE.

- Shorthorn (Pedigree).*
 H. M. FILDES, Estate Office, Riversfield, Kilmallock, Co. Limerick.
 J. C. ROBINSON, Oaklea Warren, Newick, Sussex.
Shorthorn (Non-Pedigree).
 T. C. GOODWIN, Leighton Grange, Crewe.
Lincolnshire Red Shorthorn.
 B. G. BOWSER, Nettleham Heath, Lincoln.
British Friesian.
 J. R. McCaw, Douneside Home Farm, Tarland, Aberdeenshire.
 J. L. NISBET, Easter Newton, Kirknewton, Midlothian.
South Devon.
 R. HOARE, Mount Barton, Staverton, Devon.
Devon.
 G. SPILLER, Buddlewall, Holditch, Chard, Som.
Red Poll.
 R. B. ASTLEY, The Milebrook, Bucknell, Salop.
Welsh Black.
 M. GRIFFITH, Pwllpeiran, Devil's Bridge S.O., Cardiganshire.
Ayrshire.
 R. DUNLOP, Capelhill, Castle Douglas, Kirkcudbright.
Guernsey.
 MISS M. E. MICHIE, Tichborne, Alresford, Hants.
Jersey.
 J. CORTLANDT TAYLOR, Platt House Farm, Wrotham Hill, Kent.
Kerry and Dexter.
 E. P. F. SUTTON, Erleigh Park, near Reading.

GOATS.

MRS. A. W. ABBEY, Downe Hall, Roydon, Essex.

CHEESE.

The "Lonsdale" Challenge Trophy.

ALEC. TODD, British Dairy Institute, Reading.

*Stilton and Wensleydale.*C. WILSON-SEARS, Montague Chambers, Montague Close, London, S.E. 1.
Cheddar.

E. BENNETT, Messrs. Thompson & Collins, Bridgwater, Som.

P. L. BROWNSEY, Messrs. William Cary & Son, Ltd., Shepton Mallet.

W. MCFADZEAN, Messrs. A. McLelland & Son, Ltd., Kilmarnock.

S. C. THATCHER, Messrs. Harrods Ltd., Knightsbridge, London, S.W. 1.
*Colonial Cheddar.*F. S. TOPE, The Army & Navy Co-operative Society, Ltd., 105, Victoria Street,
London, S.W. 1.*Cheshire.*

H. S. BOSTOCK, Messrs. Benjamin S. Bostock, Ltd., Nantwich Road, Crewe.

E. F. EDWARDS, Messrs. John Gardner (London) Ltd., 211, Long Lane,
Bermondsey, London, S.E. 1..

J. ROBINSON, 66-69, Grainger Market, Newcastle-on-Tyne.

P. SMITH, Highgate, Whitchurch, Salop.

*Ayrshire Dunlop.*A. GARVIE, Messrs. A. Clement & Sons, Ltd., 64, Albion Street, Glasgow, C. 1.
*Factory and Inter-County.*A. J. SHELDON, Messrs. John Barker & Co., Ltd., Kensington High Street,
London, W. 8.*Leicester, Derby, Gloucester and Small Pressed.*

E. PAKEMAN, Messrs. Etches, Smith, Cox & Co., Derby.

Lancashire.

MISS J. STUBBS, Lancashire C.C. Dairy School, Hutton, near Preston.

Caerphilly.

MRS. G. H. WILLIAMS, Kayte Farm, Cheltenham.

Cream and Unripened Soft.

MISS A. J. W. NICHOLAS, County Hall, Truro.

* COLLECTION OF PRODUCE.

MISS V. E. CHEKE, British Dairy Institute, The University, Reading.

BACON AND HAMs.

G. GAYTON, Messrs. James Howell & Co., Ltd., Wharton Street, Cardiff.

BUTTER.

2-lb. Classes.

MRS. E. B. BEER, Puddaven, Totnes, Devon.

MISS N. BENNION, Cheshire School of Agriculture, Reaseheath, Nantwich.

MISS A. GERRARD, Huddington, Droitwich.

MISS E. PRITCHARD, Department of Agricultural Education, County Buildings,
Worcester.*Commercial.*H. S. DUDLEY, Messrs. Warren, Sons & Co., Ltd., Daydawn House, Aldgate
East, London, E. 1.MAJOR J. G. STOKES, Messrs. Salter & Stokes, Ltd., 19 & 20, King Street,
West Smithfield, London, E.C. 1.*Fancy and Ornamental.*

MISS A. J. W. NICHOLAS, County Hall, Truro.

Colonial Salted.

W. E. BULMER, 9, Custom House Street, Cardiff.

W. G. OAKEY, Messrs. Spear Brothers & Clark, Ltd., 36, Victoria Street,
Bristol, 1.

BUTTER—continued.

Colonial Unsalted.

- L. CLASSEY, Messrs. Aplin & Barrett and the Western Counties Creameries, Ltd., 33, Park Road, Battersea Park, London, S.W. 11.
H. P. WALKER, Messrs. A. G. Masters & Co., Ltd., 177-185, Hackney Road, London, E. 2.

CREAM.

- MISS E. BRAY, Agricultural Education Department, 1, Richmond Road, Exeter.

BOTTLED FRUITS, VEGETABLES, AND JAMS.

- MISS M. L. ADAMS, University of Bristol, Research Station, Long Ashton, Bristol.

HONEY AND WAX.

- REV. W. H. COMBER, Handley Rectory, Chester.

INVENTIONS.

- W. BURKITT, Grange Hill, Bishop Auckland.
C. N. GOODE, The Croft, Bedford Road, Rushden, Northants.
J. GILLARD STAPLETON, Owles Hall, Crews Hill, Middlesex.
J. TAYLOR, Heath Farm, Tiptree, Essex.

JUNKET-MAKING CONTESTS.

- E. G. F. WALKER, The Hollies, Chew Stoke, Bristol.
Championship Class.
MRS. R. G. ROWS, Boscarne, Bodmin, Cornwall.

BUTTER-MAKING CONTESTS.

- MISS R. M. EVANS, Agricultural Office, Lampeter.
MRS. A. S. McWILLIAM, Twyford, Granby Croft, Bakewell, Derbyshire.
Championship Class.
E. CAPSTICK, Staplemead, Frome, Somerset.

MILKERS' CONTESTS.

- A. BARNETT, Rose Farm, Worleston, Nantwich.
W. H. THOMAS, Bucks. County Council, County Offices, Aylesbury.

COW JUDGING CONTEST.

- W. B. MERCER, Cheshire School of Agriculture, Reaseheath, Nantwich.
W. NIXON, Great Pinley, Claverdon, Warwick.
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THE OBJECTS OF THE BRITISH DAIRY FARMERS' ASSOCIATION

are the improvement of

DAIRY STOCK AND DAIRY PRODUCE,

by encouraging the Breeding and Rearing of Stock for the special purpose of the Dairy; a larger and better production of Milk, Butter, Cheese, and Eggs; the Erection of Improved Dairy Buildings, and the Invention of New or Improved Dairy Utensils, Machinery, Implements, and Scientific Appliances. The Association also stimulates the Breeding and Rearing of Poultry, &c. By means of Papers in the Association's *Journal* (published annually), Annual Conferences in different dairy districts, Lectures, and Discussions, and in other ways, efforts are continually being made to disseminate a more thorough knowledge of Dairy husbandry. Moreover, prompt action is taken by the Association for the protection of the interests of Dairy Farmers in the event of their being threatened by legislation or by Departmental Orders.

Cash Prizes and Trophies to the approximate value of £6,000 are annually offered for competition at the Dairy Show, held at the Royal Agricultural Hall, Islington, London.

It is difficult to over-estimate the importance and need of greater attention being paid to the Dairy Industry. It is admitted that by improving modes of managing milk and its products, the wealth obtained from the milch cows of the country could be increased most materially. The Council, therefore, appeal to Agriculturists of all classes, and Dairy Farmers in particular, to become Members of the Association, and practically aid in developing its usefulness.

The advantages of Membership comprise :—

- 1.—A free pass to all the Association's Dairy Shows, available each day during the Exhibition, with the privilege of admitting free (by ticket) a friend on any one day.
- 2.—The privilege of participating, at specially low charges, in the Dairy Conferences organised by the Association at home or abroad.
- 3.—The Exhibition of Live Stock, Dairy Produce, and Utensils (for competition) at a reduced scale of fees to Life Members, and to Annual Members subscribing £1 per annum whose subscription for the past year and current year is paid. A reduction of 10 per cent. is allowed to Standholders whose Membership is of 3 years standing.
- 4.—A copy (free by post) of the *Journal* of the Association, published annually.
- 5.—Analyses by the Analytical and Consulting Chemist, at low fees, of samples of milk, cream, butter, cheese, feeding stuffs, water, soil, manures, &c., and advice on dairy matters connected with his department.

- 6.—Bacteriological examination of dairy produce, &c., at reduced fees.
- 7.—Examinations by the Consulting Pathological Bacteriologist for particular pathogenic or disease-producing organisms.
- 8.—Professional advice and assistance at a reduced scale of charges in any case of disease among the live stock of the farm.
- 9.—In any case of apparent hardship in connection with the administration of the Model Milk Clauses, Members are recommended to at once send details of such case to the Secretary, who will submit the matter to the Committee appointed to deal with such matters, after which advice and assistance will be given by the Association.

The Annual Subscription is £1, but Dairy Instructors and Students and full-time Secretaries and Recorders of Milk Recording Societies are admitted on payment of 10s. 6d. per annum. The latter sum entitles Members to all privileges, except the reduced fees for exhibition at the Shows. Life Membership, £15.

Members' Chemical Privileges

Free Analysis.—Each member, whose subscription for the current year is paid, is entitled to one analysis of a dairy product (paragraphs 1 to 8 below) free of charge. A stamped addressed envelope must be forwarded with the sample for the return of the report of the analysis.

Further analyses will be made by the Association's Consulting Chemist at the following reduced fees :—

				£	s.	d.
1.—MILK (Fresh).						
	Estimation of Fat and Total Solids ...	...	...	0	1	0
	Estimation of Fat, Casein, Albumen, Sugar, and Ash ...	...	...	0	10	0
2.—MILK (Sour).						
	Estimation of Fat and Total Solids ...	...	...	0	5	0
3.—SKIMMED MILK.						
	Estimation of Fat and Total Solids ...	...	...	0	5	0
4.—CONDENSED MILK.						
	Estimation of Fat ...	...	...	0	5	0
	Estimation of Fat, Casein, and Solids ...	...	...	0	10	0
	Estimation of Cane Sugar (extra) ...	...	...	0	5	0
5.—CREAM.						
	Estimation of Fat ...	...	...	0	5	0
	Estimation of Fat, Casein, and Solids ...	...	...	0	12	6
	Examination for Foreign Fats (extra) ...	...	...	0	10	0
6.—BUTTER.						
	Estimation of Water, Fat, Casein, and Ash ...	...	...	0	10	0
	Examination for Foreign Fats (extra) ...	...	...	0	10	0
7.—CHEESE.						
	Estimation of Water, Fat, Casein, and Ash ...	...	...	0	10	0
	Examination for Foreign Fats (extra) ...	...	...	0	10	0
8.—RENNET.						
	Examination of Strength ...	...	...	0	5	0

9.—CAKES AND MEALS.						£	s.	d.
Estimation of Oil only						...	...	0 5 0
Estimation of Oil, Albuminoids, Carbo-hydrates, &c.						...	...	0 15 0
10.—GRASS, SILAGE, ROOTS, &c.								
Estimation of Oil, Albuminoids, Carbo-hydrates, &c.						...	1 10	0
11.—MANURES.								
Estimation of Soluble Phosphoric Acid						...	...	0 5 0
Estimation of Soluble and Insoluble Phosphoric Acid						...	...	0 7 6
Estimation of Citric Soluble Phosphoric Acid						...	...	0 7 6
Estimation of Nitrogen						...	...	0 5 0
Estimation of Potash						...	...	0 7 6
12.—SOIL.								
Estimation of Lime						...	...	0 5 0
Analysis and Report						...	...	2 2 0
13.—WATER.								
Analysis for Drinking or Dairy Purposes						...	...	1 1 0
14.—CIDER AND FERMENTED DRINKS.								
Estimation of Alcohol						...	...	0 7 6
Estimation of Alcohol, Sugar, Acidity, &c.						...	...	0 15 0
15.—PRESERVATIVES.								
Examining a Substance for Boracic Acid or Salicylic Acid,								
&c., for each Substance sought						...	...	0 2 6
Estimation of the quantity of Boracic Acid						...	...	0 10 6
16.—CONSULTATIONS AND REPORTS ON SUBJECTS, BY ARRANGEMENT.								
For Letter in reply to Enquiry						...	...	Free
NOTE.—The Consulting Chemist will be prepared to quote reduced terms to members requiring a number of analyses at frequent intervals.								

Instructions for Taking Fair Samples for Analysis.

Dairy Produce.—Milk should be sent in a well-corked 8-oz. clear bottle. The milk should quite fill the bottle. Butter or cheese, about 8 ounces; the former in a gallipot well tied down.

Soils.—A block of soil about four or five inches square, and nine inches deep, should be sent in a strong box by rail.

Artificial Manures.—Take a handful of manure out of at least half a dozen bags, mix these rapidly and thoroughly, breaking down all lumps. Forward about a pound of the mixture in a tin box, and retain the remainder. Samples of manure should be sent immediately after the delivery of the bulk. All manures should be bought subject to analysis.

Feeding Materials.—Feeding cakes, meals, or grains : about a pound should be sent in a bag or box. Grass and hay : a bundle of a few pounds weight. Silage : a six-inch cubic block, packed closely in a box to keep it compressed.

Waters.—A Winchester quart glass-stoppered bottle should be procured from a druggist, well washed out with the water, then completely filled, the stopper tied securely down, and the bottle packed in a box and sent by rail.

N.B.—In order to prevent disappointment, the Chemist requests that, as far as possible, Members desiring to hold a personal consultation should make an appointment by letter. Between 10 and 4 are the hours most convenient. All communications intended for the Analytical and Consulting Chemist must be addressed direct to DR. T. J. DRAKELEY, D.Sc., Ph.D., F.I.C., F.I.R.I., F.C.S., 28, Russell Square, London, W.C. 1.

Members' Bacteriological Privileges

Samples of dairy produce, &c., submitted for a bacteriological count, or for examination for *Bacillus Coli*, &c., should be forwarded to DR. T. J. DRAKELEY, D.Sc., Ph.D., F.I.C., F.C.S., F.I.R.I., 28, Russell Square, London, W.C. 1.

Bacteriological Examination of "Certified," "Grade A," or
 "Pasteurised" Milk under the Milk (Special Designations)
 Order, 1922 10s. 6d.

Examinations for Pathogenic Organisms.

By arrangement with the National Institute for Research in Dairying, Shinfield, near Reading, samples to be examined for the pathogenic organisms mentioned below may be sent to DR. A. T. R. MATTICK (at the above address) who will supply on request the necessary sterile equipment with instructions as to the method of taking and dispatching samples. Members are asked to note that in the examinations for tubercle bacilli the method of animal inoculation will be used. This is the only reliable method, but except in special cases this method necessarily involves a delay of eight weeks before the report can be sent.

A similar delay **may** be involved when samples have to be examined for the presence of *Br. abortus*.

Examinations will be at the following fees :—

MILK	£	s.	d.
Examination for the presence of living tubercle bacilli or			
<i>Br. abortus</i>	1	1	0
CREAM, BUTTER AND CHEESE.			
Examination for the presence of living tubercle bacilli or			
<i>Br. abortus</i>	1	10	6

Members' Veterinary Privileges

Members of the Association who require professional assistance in any case of disease among their animals must apply direct to the Consulting Veterinary Surgeon, Professor G. H. WOOLDRIDGE, Royal Veterinary College, Camden Town, London, N.W. 1, whose scale of charges is as follows :—

	£	s.	d.
Personal Consultation	0	10	6
Post-mortem Examination and Report	1	1	0
Consultation by Letter	0	5	0
Visit and Report, in case of an outbreak of disease, in addition to personal and travelling expenses, per day	3	3	0

Members' Botanical Privileges.

Members may submit seeds and plants for botanical examination, and the following are a few of the special fees :—

No.	£	s.	d.
1.—A Report on the purity of a sample of seed	0	1	0
2.—A Report on the germinating power of a sample of seed	0	1	0
Nos. 1 and 2 together	0	1	6
3.—Determination of the species of any weed or other plant, or of any vegetable parasite, with a report on its habits, and the means for its extermination or prevention	0	1	0
4.—Determination of the species of a collection of natural grasses found in any district, with a report on their habits and pasture value	0	4	0

Instructions for Selecting and Sending Samples.

At least one ounce of grass and other small seeds should be sent, and two ounces of cereals or larger seeds. Grass seeds should be sent at least four weeks, and clover seeds two weeks before they are to be used. In collecting specimens of plants, the whole plant should be taken up and the earth shaken from the roots. If possible the plant should be in flower or fruit. They should be packed in a light box, or in a firm paper parcel. Specimens of diseased plants or of parasites should be forwarded as fresh as possible, either in a bottle, or packed in tinfoil or oil silk. All specimens should be accompanied with a letter specifying the nature of the information required, and stating any local circumstance (soil, situation, &c.) which, in the opinion of the sender, would be likely to throw light on the inquiry.

The proper fee should be sent with the letter concerning the sample to DR. T. J. DRAKELEY, D.Sc., Ph.D., F.I.C., F.C.S., F.I.R.I., 28, Russell Square, London, W.C. 1.

BRITISH DAIRY INSTITUTE

THE British Dairy Institute was established at Aylesbury in 1888 by the British Dairy Farmers' Association. In order that students might have an opportunity of combining practical dairying with scientific instruction, the Institute was removed in 1896 to Valpy Street, Reading, and placed under a committee which now represents the British Dairy Farmers' Association and Reading University. The Institute at present occupies buildings on the University site in London Road, Reading (the side entrance to the Institute is in Redlands Road).

The Institute contains milk-receiving, buttermaking and milk-testing rooms ; rooms for the manufacture of pressed, unpressed, and soft cheeses ; and ripening rooms for the different varieties of cheese. It is equipped with the best modern apparatus for the manufacture of dairy produce, including power driven separating and buttermaking plant ; and cold storage, ice cream and pasteurizing plants.

The Institute is open in each year from the last Friday in January until the end of the autumn term (the middle of December). Courses at the Institute are open to men and women above the age of 16 years, and all students admitted are thereby subject to University regulations. Except for recognised courses, students may join at any time which the Institute is open, and for any period not less than a week.

Practical and theoretical instruction is given in all branches of dairying, and may be advanced, elementary, or specialised, according to requirements. The manufacture of hardpressed and soft cheeses is taught throughout the time the Institute is open, but Stilton and other blue-veined varieties are not made until May. Instruction is also given in buttermaking, the management of various types of separators, the handling and care of milk, the preparation of starters, &c.

Lectures and demonstrations are usually given in the afternoons, the mornings being devoted to practical work.

The following courses are open to students :—

B.SC., DAIRYING. Duration of course, three years.

First session of three terms—study for Intermediate Examination.

Two sessions—study for Pass Degree.

During the first year a month must be spent at the British Dairy Institute during the vacation following Summer term, and an additional month's experience obtained in a dairy factory. After qualification for the Pass Degree, distinction may be obtained by a further year of advanced work on a chosen subject, and by passing the final examination Reading University.

DIPLOMA IN DAIRYING.

Duration of course two years, exclusive of six months' practical farm experience. Fees £35 first year, £41 second year.

NATIONAL DIPLOMA IN DAIRYING (National Diploma Examination Board).

Duration of course two years, exclusive of six months spent on a dairy farm recognised by the Board. The examination is held in September, and can be taken by students who have followed the Reading University Dairying Diploma course.

CERTIFICATE IN DAIRYING.

Duration of course six months (March—September). This course is suitable for students who wish to qualify for the British Dairy Farmers' Association certificates in butter and cheesemaking (the latter requires an additional six months' cheesemaking experience). Fees £21.

Short courses in practical and theoretical dairying are given by arrangement with the British Dairy Institute. Fees, Cheesemaking 25s. per week; Buttermaking 12s. 6d. per week.

The full syllabus of courses, details of residence, regulations, uniform, &c., can be obtained on application to the Secretary, British Dairy Institute, Reading.

British Dairy Farmers' Association

Fifty-ninth Half-Yearly Report of the Council presented to the Members at the Meeting held at the Dairy Show, Royal Agricultural Hall, Islington, London, N.1, on Wednesday, October 24th, 1934.

In welcoming the Members to the fifty-ninth Half-yearly meeting, the Council is gratified in being able to report continued progress in the Association's activities.

As will be observed from the attached table, the entries for the 56th Annual Dairy Show are extremely satisfactory, and the Council is most pleased to call attention to the increased entry of cattle and cheese. It is also pleasing to report an increase in the entries of bacon pigs.

The classification for cream has been revised and the following class instituted :—

Each exhibit to contain one vessel of pasteurized cream with a fat content of not less than 50 per cent. and not more than 55 per cent. ; one vessel of pasteurized, homogenized cream with a fat content of not less than 25 per cent. and not more than 30 per cent., and one vessel of pasteurized, homogenized cream with a fat content of not less than 15 per cent. and not more than 20 per cent. The vessels to be supplied by the British Dairy Farmers' Association. Open only to Wholesale Creameries and Factories.

A challenge cup is being offered for the best exhibit in this class with money prizes for second and third.

In the cheese section, competition will be intensified this year in consequence of the " LONSDALE " Perpetual Challenge Trophy kindly presented by the Earl of Lonsdale, K.G., G.C.V.O. This will be awarded to the exhibitor in England, Scotland or Wales for the best exhibit of Cheese, such Cheese to be made on the farm occupied by the Exhibitor, and to be the product of whole milk produced thereon. The Silver Medal of the Association will be presented to each year's winner of this Trophy.

In the cattle section stimulation is given to Jerseys by the presentation by the Heirs of the late Mr. J. H. Smith-Barry, of a Challenge Bowl for the Jersey Cow or Heifer gaining the greatest number of points in the Milking Trials and Butter Tests.

In view of the great interest shown in connection with the Inspection judging for the "Bledisloe" Challenge Bowl and the Individual Championship Challenge Trophy, the Council has decided to make similar arrangements to those of last year. The judging for these two Trophies will therefore take place in the Gilbey Hall at 2.15 p.m. on Wednesday and Thursday, October 24th and 25th respectively.

The applications received in connection with the non-competitive section of the Dairy Show have been as numerous as ever, and the amount of space allotted constitutes a record. The planning of the main hall is on similar lines to that of last year, and the stands are arranged in such a manner as to give the exhibitors every opportunity of presenting to members and visitors a really good display of dairy machinery, appliances, &c.

The success which has attended the Members' Stand, Scone-baking Stand and Milk Buffet at previous Dairy Shows has justified the Council in again providing similar accommodation in the main hall.

The Council is most pleased to notify the members that the Rt. Hon. The Lord Mayor of London has kindly consented to visit the Dairy Show on Wednesday morning. Also that the Corporation of the City of London has again generously presented three Champion Cups for competition in the Cheese and Butter Sections.

For the Inter-County Clean Milk Competition 1933/34, six entries were originally received, but unfortunately one of these ~~was~~ withdrawn. The result of the competition will be made known during the Dairy Show and the "Stapleton" Challenge Cup, kindly presented by Mr. J. Gillard Stapleton, will be awarded, with money prizes, to the respective winners on Tuesday afternoon, October 23rd, in the Gilbey Hall.

The World's 10th Dairy Congress held in Italy from 30th April to 6th May, 1934 was attended by over 2,000 delegates, representing 45 Countries. It is gratifying to state that through the action of the British Dairy Farmers' Association, upwards of 100 attended from Great Britain. As a full report upon the proceedings at this Congress will appear in the next Journal of the Association, it is unnecessary to make further comment thereon.

While the other departments of the Association's activities will be dealt with in the next annual report, the Council desires to express the hope that Members will use every endeavour during this Dairy Show to interest their friends in the Association's work through the channel of Membership.

It is most gratifying to the Council to be able to inform the Members that Lord Rowallan, whose keen interest in the breeding of pedigree Ayrshires and dairy farming is so well known, has very kindly agreed to allow his name to go forward as President for 1935. Your vote will, therefore, be asked in support of his Lordship's candidature.

The following list of Vice-Presidents has been prepared and your approval will be asked for their election :—

Earl of Dartmouth, P.C., K.C.B.
 Earl of Lonsdale, K.G., G.C.V.O.
 Earl of Iveagh, C.B., C.M.G.
 Major Lord O'Hagan.
 Lord Desborough, K.G., G.C.V.O.
 Lord Strachie, P.C.
 Lord Bledisloe, P.C., G.C.M.G., K.B.E.
 Lord Daresbury, C.V.O.
 S. Palgrave Page, J.P.
 G. Titus Barham.
 John Evens, J.P.
 Major J. A. Morrison, D.S.O.

In accordance with the Articles of Association the following members of the Council retire this year, and have been nominated for re-election :—

W. S. Brocklehurst, Beds.	R. Shanks, Sussex.
W. Burkitt, Durham.	G. M. Strutt, Essex.
Mrs. B. Jervoise, Hants.	Miss J. Stubbs, Lancs.
Capt. R. Oliver-Bellasis, Warwickshire.	E. P. F. Sutton, Berks.
Mrs. M. Reeves, Somerset.	E. G. F. Walker, Somerset.
F. H. Sanderson, Northumberland.	S. T. White, Somerset.

The following new candidate has been proposed by Lord Daresbury and seconded by Mr. R. Hobbs :—

Capt. W. Briggs (Chartered Land Agent), Estate Office,
 St. Clere, Kemsing, Kent.

Mr. Herbert J. Page, of Messrs. Kemp, Chatteris, Nichols, Sendall & Company, will be proposed as the Association's official Auditor with Messrs. R. Fulton, P. Hay and W. E. Manchester, J.P., as Honorary Auditors.

By order of the Council,

FRED J. BULL,

Secretary.

28, Russell Square, London, W.C.1.

October, 1934.

THE FOLLOWING TABLE GIVES COMPARATIVE DETAILS OF THE ENTRIES AT THE DAIRY SHOW
WITH THOSE OF THE PAST TWELVE YEARS.

	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	1931.	1932.	1933.	1934.
Cattle	515	539	473	470	449	449	366	356	390	382	344	348	427
Milking and Butter Tests	760	772	718	700	693	737	563	547	628	612	589	581	678
Goats	91	67	72	48	78	68	53	90	80	105	141	120	106
Poultry	4,398	4,685	4,498	4,355	4,352	3,888	3,642	3,432	3,395	3,314	3,037	2,933	3,016
Pigeons	3,208	3,115	3,027	3,094	3,180	3,098	3,083	2,959	2,655	2,616	2,396	2,611	2,471
Cheese	418	488	486	459	489	688	664	519	596	578	462	441	627
Bacon and Hams	87	89	113	95	95	105	103	95	120	64	99	76	81
Butter	388	401	483	420	430	488	476	391	413	438	354	297	279
Cream	37	33	30	47	30	43	47	43	64	59	42	37	47
Honey, &c. ...	58	92	102	53	65	56	88	111	95	85	76	116	152
Bottled Fruits and Vegetables ...	26	53	65	33	56	80	34	116	87	96	61	119	116
New and Improved Inventions ...	30	37	37	54	50	57	13	30	20	23	20	25	32
Roots	183	190	283	269	271	242	165	31	12	No class	No class	No class	No class
Butter Making Contests	141	129	154	130	131	155	124	152	152	143	124	128	146
Milkers' Contests	44	43	56	51	47	61	44	41	70	71	67	68	84
Junket-making Contests	12	23	33	27	28	38	36	31	42	40	40	50	42
Collection of Colonial Produce	3	3	1	2	—	—	—	—	—	No class	No class	No class	No class
Cow-Judging Contest	—	7	4	8	10	9	7	10	7	4	7	8	15
Collection of Produce	—	—	8	18	9	9	7	33	14	19	9	9	16
	10,399	10,766	10,643	10,333	10,464	10,271	9,515	8,987	8,840	8,649	7,841	7,967	8,335

FIFTY-NINTH ANNUAL REPORT OF THE COUNCIL

for the Year ended 31st December, 1934,

Presented to the General Meeting of Members
on Wednesday, March 6th, 1935

The Council has, with the deepest regret, to preface the 59th Annual Report by recording the great and sad loss which has been sustained by the decease of Mr. William C. Brown and Major J. A. Morrison. Mr. William C. Brown was elected a member of the Association in 1888 and served on the Council from 1891 until 1909. His activities in connection with the London Dairy Shows commenced in 1894 as Steward of the Centre Dairy, a position he occupied until 1927. In 1903 and 1904 he also acted as one of the Judges of the Butter Tests. Mr. Brown's valuable advice and untiring efforts in the interests of the dairying industry will be sadly missed by the members of the Association and particularly those of the Council with whom he laboured for so many years.

Major J. A. Morrison joined the Association in 1919, acted as President in 1924, 1925 and 1926 and from that year until his death was a Vice-President. Major Morrison took a keen interest in the Association's activities, especially those connected with the London Dairy Shows where for many years he was a successful exhibitor of Red Poll Cattle. In 1924 he generously presented a valuable Perpetual Challenge Trophy for competition in the cattle section at the Dairy Show and in 1928 kindly offered another Perpetual Trophy for competition in the Poultry Section.

COUNCIL.

The constitution of the Council has changed only in regard to one member, Capt. William Briggs being elected to a seat at the annual election held at the recent Dairy Show.

MEMBERSHIP.

At the close of the year the membership totalled 1,829, of which 1,692 were annual, 131 life and 6 honorary members together with 14 affiliated Societies. During the year 105 new members have been enrolled, but, unfortunately, almost a similar number has been removed from the register owing to deaths and resignations. The Council feel that the Association is worthy of greater support, and Lord Rowallan, your President, has very kindly agreed to append his signature to a letter appealing to those connected with the dairy industry to uphold the Association through the channel of membership. It is, therefore, hoped that each member will follow the lead given by the President, make the Association better known in his

or her locality, and, if possible, secure a signature to the membership form enclosed.

THE DAIRY SHOW.

The result of the 56th Annual Dairy Show held at the Royal Agricultural Hall, London, N., on October 23rd to 26th, proved a very great success in every respect. The competitive entries totalled 8,335 as compared with 7,967 in the previous year—an increase of 368. The applications received for stand space constituted a record, and the visitors to the Show—irrespective of exhibitors and members—numbered 46,718, the second highest total on record.

As the various sections of the Show will, as usual, be reported upon in the Association's Journal, Vol. 47, it is considered unnecessary to make further comments thereon.

EXAMINATIONS.

During the past year examinations have been held at the following six centres:—

Somerset Farm Institute, Cannington.

Farm Institute, Sparsholt.

Studley College, Studley.

Seale-Hayne Agricultural College, Newton Abbot.

Agricultural Institution, Usk, Monmouthshire.

British Dairy Institute, Reading.

and 74 certificates for buttermaking and 33 for cheesemaking were awarded.

The 39th annual examination for the National Diploma in Dairying took place in September at the University and British Dairy Institute, Reading, for English and Welsh students, and at the Dairy School for Scotland, Auchincruive, for Scottish students. At the English centre 57 candidates presented themselves and 32 were awarded the diploma, while at the Scottish centre 21 candidates were successful out of 40 who attended. No candidate at either centre attained the Honours standard.

MEDAL SCHEME.

Under the above scheme the following medals were awarded during 1934:—

						Silver.	Bronze.
Dairy Cattle ...	...	...	...	...	...	14	3
Produce ...	...	...	...	...	...	3	7
Buttermaking ...	...	...	...	...	...	4	1
Milkers' Contests ...	...	...	...	...	...	4	2
Cow Judging Contests ...	...	...	...	...	...	1	4
Poultry Judging Contests ...	...	...	...	...	...	1	2
						<hr/>	<hr/>
					TOTALS ...	27	19
						<hr/>	<hr/>

Clean milk competitions were held in several English and Welsh counties during last year, and the Council awarded a Gold Medal as a provincial championship to the leading competitor in each of six advisory provinces.

CHEESE INDUSTRY.

The question of the inadequate facilities given to the farmer cheesemaker by the Milk Marketing Board received the consideration of the Council, and in February 1934 the following resolution was forwarded to the Ministry of Agriculture and Fisheries :—

“ The Council of the British Dairy Farmers' Association respectfully requests the Minister of Agriculture and Fisheries to take such steps as he considers expedient to secure an economic price for Farm-house manufacturers of Cheese and other Dairy Products.”

ICE CREAM.

At a meeting of the Council held on February 7th, 1934, it was agreed to re-affirm the following resolution which had been forwarded to the Ministry of Health on April 10th, 1931 :—

“ That it is urgently desirable, in the interests of the British farmer as well as the British public, to provide for the fixing of a standard for ice cream compelling the use of dairy products in its composition when it is manufactured for sale.”

LIVE STOCK INDUSTRY.

A resolution passed by the Leicestershire Chamber of Agriculture pressing upon the Government the urgent necessity of immediate relief for the Live Stock Industry was considered by the Council on June 6th, 1934. It was agreed to communicate with the Ministry of Agriculture and Fisheries and express the sincere hope that, in view of the seriousness of the situation of the Live Stock Industry—embracing breeder, rearer and feeder—something might be done, without delay, to relieve the very depressed condition of such industry.

DAIRY CONFERENCE.

The Council avails itself of the present opportunity of announcing that it has decided to hold a Dairy Conference and Tour in Switzerland from June 8th to 17th inclusive, provided sufficient members agree to participate. A preliminary programme will be circulated at an early date and the Council sincerely hope that a sufficient number of applications may be received to render the project possible.

By order of the Council,

FRED J. BULL,

Secretary.

28, RUSSELL SQUARE,
LONDON, W.C. 1.

THE BRITISH DAIRY

FINANCIAL

GENERAL INCOME AND EXPENDITURE

Dr.

WITH COMPARATIVE

EXPENDITURE.	1934. £ s. d.	1933. £ s. d.
Education, including Examinations, Medal Scheme, Conference and Inter-County Clean Milk Competition	403 16 5	441 6 8
Journal	549 15 9	594 13 3
Bank Charges, including cost of cheque books ...	18 9 1	18 8 4
Rent	240 0 0	240 0 0
Prizes to Exhibitors	3,671 16 6	3,655 6 5
Dairy Show—Hire of Hall, Fittings, Postage and Sundry Expenses	6,351 16 9	6,168 7 11
Working Dairy and Milk Buffet	655 15 7	646 7 4
Catalogues	812 4 0	793 11 7
Salaries	1,154 15 0	1,121 16 8
Wages and Labour	1,248 8 5	1,182 17 10
Printing, Stationery, Postage, and Sundry Office Expenses	260 15 3	315 14 10
Railway Fares for attendance at Council Meetings	148 16 7	183 16 1
Auditors' Fees, Law Charges, and Officers' Retaining Fees	134 8 0	133 7 0
Depreciation of Furniture	242 5 9	102 1 2
British Dairy Institute—Contribution towards estimated loss to 31st December, 1934 ...	125 0 0	758 11 10
Donations—		
Dr. Williams' Memorial Fund	—	200 0 0
National Milk Publicity Council	—	100 0 0
Royal Agricultural Benevolent Institution	52 10 0	220 10 0
Reading University	—	5 0 0
International Dairy Federation	15 15 0	5 5 0
Central Chamber of Agriculture	5 0 0	5 0 0
National Pigeon Association	1 1 0	1 1 0
National Federation of Young Farmers' Clubs	10 10 0	—
Rothamstead Experimental Station	25 0 0	—
Superannuation	104 18 6	104 18 6
Stands at Agricultural Shows	31 13 4	31 13 4
General Analyses	23 2 0	28 1 9
World's Dairy Congress—Delegates expenses ...	210 0 9	—
BALANCE, being excess of Income over Expenditure	3,399 1 2	2,249 3 8
	£19,896 14 10	£19,307 0 2

FARMERS' ASSOCIATION

STATEMENTS

ACCOUNT for the Year ended December 31st, 1934

STATEMENT FOR 1933.

Cr.

	INCOME.			1934.			1933.		
				£	s.	d.	£	s.	d.
Subscriptions	1,455	5	6	1,485	0	0
Donations	3	3	0	—		
Examinations	89	7	9	83	17	9
Journal	94	10	5	116	5	10
Contributions to Prize Fund	330	16	0	359	1	6
Entry Fees, Competitive and Non-Competitive	10,921	11	9	10,523	1	1
Profit on Sales of Exhibits, including Commission	71	6	6	37	17	3
Admission Money	3,952	19	3	3,965	3	6
Sales in Working Dairy and Milk Buffet	877	15	2	753	19	2
Catalogues Sales and Advertisements	769	3	5	732	0	3
Interest on Investments	1,303	2	3	1,225	5	0
Interest on Bank Deposit	16	2	10	15	19	10
Hire of Council Room	11	11	0	9	9	0
				<hr/>			<hr/>		
				£19,896	14	10	£19,307	0	2
				<hr/>			<hr/>		

The British Dairy Farmers' Association

Particulars of Medal Distribution Scheme.

THE Council of the British Dairy Farmers' Association is prepared to consider applications from Educational Centres and Approved Societies in the United Kingdom for their Silver and Bronze Medals to be awarded in connection with dairying and dairy farming under the following conditions, viz. :—

1. All applications must be made on the official form and must clearly state the object for which the Medal or Medals are required.
2. Only one application from any Institution or Society can be considered in any one year.
3. The application must be repeated annually if medals are again required.
4. A copy of the draft prize list, showing the proposed conditions for the award of the Medal, should accompany the application, and the offer of a Medal cannot be confirmed until the prize list has been approved by the British Dairy Farmers' Association.
5. The British Dairy Farmers' Association stipulates that no entry fee shall be charged in respect of these Medals, which are offered as Special Extra Prizes.
6. Notification of the award, with the winner's full name and address, together with a marked catalogue of the Show, to be forwarded to the Secretary, British Dairy Farmers' Association, 28, Russell Square, London, W.C.1, within 14 days of the award being made.
7. A person may not receive more than one Medal under this Scheme for the same subject or exhibit during any one year.
8. Medals will not be granted in competitions where cups and/or trophies are also offered.
9. A medal will not be awarded in any class where there are less than six exhibits present.
10. This Scheme shall come into operation on January 1st, 1934, and shall take the place of all previous Schemes.

DAIRY PRODUCE AND BUTTERMILKING.—The B.D.F.A. will consider applications on behalf of County or similar Shows for a Silver Medal as a Championship award.

The B.D.F.A. Bronze Medals may be available for local Shows and in each case shall only be awarded to the best exhibit or competitor.

CATTLE.—The B.D.F.A. Silver Medals will only be awarded at County and similar Shows to cows or heifers which are milk-recorded under the Ministry of Agriculture Scheme.

Such Medals shall only be awarded to animals which have produced not less than the undermentioned minimum milk yields either during a lactation period of 315 days or for any one completed year of a recognised Milk Recording Society:—

Dairy Shorthorns, Lincoln Red Shorthorns, Blue Albions, British Friesians, Red Polls, Ayrshires, South Devons, Guernseys and Jerseys, 8,000 lbs. at 5 years old or over, or 6,000 lbs. at under 5 years.

Devons, Kerries and Welsh Blacks, 7,000 lbs. at 5 years old or over, or 5,500 lbs. at under 5 years.

Dexters, 5,000 lbs. at 5 years old or over, or 3,750 lbs. at under 5 years.

The B.D.F.A. Bronze Medals for cattle will be available only at Local Shows under similar conditions.

The B.D.F.A. Silver Medals will only be awarded to Bulls out of recorded cows whose milk records comply with the yields stated above.

The official Form A.56/TL., obtainable from Milk Recording Societies, giving the milk yield of the animal concerned, must be forwarded with the notification of the award. In the case of a Bull, the record of its dam is required.

DAIRY HERDS.—The B.D.F.A. will consider applications for Silver or Bronze Medals by the authorities organising dairy herd competitions.

Such medals shall only be awarded to herds which are recorded under the Ministry of Agriculture's Milk Recording Scheme.

CLEAN MILK COMPETITIONS.—The Gold Medal of the British Dairy Farmers' Association will be awarded to the leading competitor in each of the advisory provinces as arranged by the Ministry of Agriculture and Fisheries, provided the competition is recognised by the Ministry.

MILKING COMPETITIONS.—The B.D.F.A. will consider applications for Silver or Bronze Medals by the authorities organising County and District Milking Competitions.

Such Medals shall only be awarded where the milking competitions are judged in conformity with the scale of points issued by the Ministry of Agriculture, or as used at the Dairy Show.

OTHER COMPETITIONS.—The B.D.F.A. will consider applications for medals from properly constituted authorities for such other competitions as may be designed to lead to improvements in the practice of Dairy Farming or Dairying.

In the event of any dispute as to the interpretation of these Rules the Council of the British Dairy Farmers' Association reserves full power of decision, and in the event of the Medal not being awarded in accordance with the above Rules and Conditions, the Council reserves the right to withhold the Medal altogether.

MEDALS AWARDED DURING 1934

B.D.F.A. Medal Scheme.

345

Applicant.	Show held at	Date.	Medal.	Winner and Object.
Yeovil Shorthorn Bull Society	Yeovil	Feb. 16	Bronze	Capt. D. M. Wills, for Shorthorn Bull "Barleywood Super Drusus," as best dairy bull out of a milk recorded cow
Devon County Agricultural Association	Newton Abbot	May 22-24	Silver	Miss M. F. Jones, for Champion Buttermaker
"	"	"	Silver	M. Rosewell, for Champion Milk
Oxfordshire Agricultural Society	Henley-on-Thames	May 23 and 24	Silver	L. F. Hensell, for Shorthorn Cow "Checkendon Wild Kirklevington," as best milk recorded dairy cow or heifer
Shropshire & West Midland Agricultural Society	Shrewsbury	"	Silver	W. L. Lea, for Shorthorn Cow "Bryneurn, Carnation 4th," as best recorded dairy cow or heifer
Yealtonpton Agricultural Association	Yealtonpton	June 6	Bronze	Mrs. G. Blackler, for butter as best exhibit of butter or cream
Royal Counties Agricultural Society	Salisbury	June 6-9	Silver	Miss S. M. Dingle, Champion Buttermaker
Thames Valley Agricultural Society	Hereford	June 12-14	Silver	Miss S. Lewis, as Champion Buttermaker
Royal Cornwall Agricultural Association	Camborne	June 13 and 14	Silver	Darlington Hall, Ltd., for South Devon Cow "Milknald 35th," as the milk recorded cow gaining highest points in Milking Trials and Butter Tests
Cambridgeshire & Isle of Ely Agricultural Society	Whittlesford	June 16	Silver	Miss H. D. Varker, for best exhibit of butter
Staffordshire Agricultural Society	Wolverhampton	June 20 and 21	Silver	J. Onslow Fane, for Shorthorn Cow "Steventon Grace," as best milk recorded dairy cow or heifer
Lincolnshire Agricultural Society	Gainsborough	June 22	Bronze	F. W. Gilbert, for British Friesian Cow "Winterbourne Dottrell 2nd," as best milk recorded dairy cow or heifer
Yorkshire Agricultural Society	Bradford	July 10-12	Silver	F. W. Hill, for best exhibit of butter
Bedfordshire Agricultural Society	Amphill	July 19	Silver	John Evans & Son, for Lincolnshire Red Shorthorn Cow "Burton Recorder," as best milk recorded dairy cow or heifer
"	"	"	Silver	Miss S. E. Jones, Champion Buttermaker
Royal Welsh Agricultural Society	Llandudno	July 25-27	Silver	G. O. Trear, for Shorthorn Cow "Little Barford Fancy Girl," as best milk recorded dairy cow or heifer
Berkley Hunt Agricultural Society	Berkley	Aug. 6	Bronze	H. A. Talbot, for Shorthorn Bull "Chawston Barrington Prince," as best dairy bull out of a milk recorded cow
Harrogate Agricultural Society	Harrogate	Aug. 6 and 7	Bronze	J. E. Roberts, Champion Milk
Dorsetshire Agricultural Society	Derby	Aug. 7	Silver	Mrs. R. Pritchard, for best exhibit of butter
United Counties Agricultural Society	Carmarthen	Aug. 9	Silver	Mrs. P. L. Mudd, for best exhibit of butter
Penrith Agricultural Society	Penrith	" 14	Bronze	W. Hunt, for Shorthorn Cow "Daffodil," as best milk recorded dairy cow or heifer
North-East Somerset Farmers' Club	Brislington	Aug. 15	Bronze	Pibworth Institute Farm, for Shorthorn Cow "Checkendon Primrose 2nd," as best milk recorded dairy cow or heifer
Penistone Agricultural Society	Penistone	Aug. 23	Bronze	H. Holme & Sons, for Shorthorn Cow "Thrinaby Thorndale Rose," as best milk recorded dairy cow or heifer
Devonock Agricultural Society	Sennybridge	Sept. 1	Bronze	W. H. Collins, for best exhibit of cheese
Dorchester Agricultural Society	Dorchester	Sept. 6	Silver	Mrs. A. G. Dennis, for best exhibit of butter
"	"	"	Silver	Mrs. E. V. Gully, Champion Buttermaker
"	"	"	Silver	P. N. Terry, for British Friesian Cow "Chebbard Heather," as best milk recorded dairy cow or heifer
"	"	"	Silver	R. N. Terry, for Shorthorn Bull "Anderson Imperial Minstrel 2nd," as best dairy bull out of a milk recorded cow

MEDALS AWARDED DURING 1934—continued.

Applicant.	Show held at	Date.	Medal.	Winner and Object.
Westmorland & Kendal Agricultural Society	Kendal ...	Sept. 13 ...	Silver ...	H. H. Owtram, for Shorthorn Bull "Embleton Duke of Oxford," as best dairy bull out of a milk recorded cow
Frome District Agricultural Society ...	Frossiefield	Sept. 26 ...	Bronze ...	H. Francis, for Shorthorn Cow "Violet," as best milk recorded dairy cow or heifer
East Devon Milk Recording Society ...	East Devon	Oct. 1, 1933— Sept. 30, 1934	Silver ...	Lord Poltimore, for Guernsey Cow "Roundelay of Cas Rouge," as milk recorded cow giving highest yield of butter-fat
National Federation of Young Farmers' Clubs	Dairy Show London	Oct. 25 ...	Silver ...	Miss B. Thomas, First in Cow Judging Contest
" " " " " "	" "	" "	Bronze ...	D. L. Davies, Second in Cow Judging Contest
" " " " " "	" "	" "	Bronze ...	John Thompson, Third in Cow Judging Contest
" " " " " "	" "	" "	Bronze ...	Miss P. Busby, Equal Fourth in Cow Judging Contest
" " " " " "	" "	Oct. 26 ...	Silver ...	F. J. King, Equal Fourth in Cow Judging Contest
" " " " " "	" "	" "	Bronze ...	Frank Dean, First in Poultry Judging Contest
" " " " " "	" "	" "	Bronze ...	W. R. Thomas, Second in Poultry Judging Contest
" " " " " "	" "	" "	Bronze ...	Miss B. Thomas, Third in Poultry Judging Contest
Lancashire Cheese & Dairy Show Association	Preston ...	Oct. 30 ...	Silver ...	R. Singleton, for best exhibit of cheese
Oxfordshire Agricultural Committee	Oxfordshire	Oct. 31—Nov. 2	Silver ...	A. E. Brown, First in Milkers' Contest for competitors over 18 years
" " " " " "	" "	" "	Bronze ...	S. Floyd, Second in Milkers' Contest for competitors under 18 years
" " " " " "	" "	" "	Silver ...	J. Carter, First in Milkers' Contest for competitors under 18 years
" " " " " "	" "	" "	Bronze ...	K. Goldard, Second in Milkers' Contest for competitors under 18 years
Gloucestershire Root, Fruit & Grain Society	Gloucester	Nov. 9 ...	Silver ...	Mrs. N. H. Barton, for best exhibit of butter

GOLD MEDALS AWARDED FOR PROVINCIAL CLEAN MILK COMPETITIONS, 1933-4.

B.D.F.A. Medal Scheme.

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Winner.	County.	Provincial Centre.	Provinces.
D. F. Macaulay	Essex	Cambridge University	Bedfordshire, Cambridgeshire, Essex, Hertfordshire, Huntingdonshire, Isle-of-Ely, Lincolnshire (Holland and Kesteven), Norfolk, Soke of Peterborough, Suffolk (East and West).
F. Hawes	Warwickshire	Harper Adams College	Shropshire, Staffordshire and Warwickshire.
R. Dale & Sons	Yorkshire	Leeds University	North, East and West Ridings of Yorkshire.
Exors. of the late James H. Hamilton	Berkshire	Reading University	Berkshire, Buckinghamshire, Dorset, Hampshire, Isle of Wight, Middlesex, Northamptonshire, and Oxfordshire.
T. Graham	Cumberland	Armstrong College	Cumberland, Westmorland, Durham and Northumberland.
J. Blackburn	Lancashire	Manchester University	Cheshire and Lancashire.

British Dairy Farmers' Association

SCHEME FOR AN INTER-COUNTY CLEAN MILK COMPETITION, 1933-34.

STAPLETON CUP.

THIS Cup has been presented to the Association to be used as an Instrument to encourage improved methods of milk production in the Counties of England and Wales, and the Association has decided that the purpose can best be served by offering the Cup as a Trophy to be held for a year by the County making the greatest progress (as judged by the method later detailed) in Clean Milk Production during the year immediately preceding.

The awards will be made on a consideration of several factors, but mainly on the progress made under the Schemes of technical assistance provided by the local authorities for Agricultural Education and recognised by the Ministry of Agriculture. In particular, attention will be paid to the results obtained in the County Clean Milk Competition, and in order to emphasise the importance attached to the conduct of these educational competitions, it is required that in the case of a County winning the Cup, its custody for a year shall be given to the milk producer of that County who, for the year under review, obtained the highest position in any of his County Competitions.

In addition to offering the Cup, the Association will award each year in the three leading Counties:—

1st Prize, £50, to the County Competitor holding the highest position in any Clean Milk Competition held within the County accorded first place in the Inter-County Clean Milk Competition.

2nd Prize, £25, to the County Competitor holding the highest position in any Clean Milk Competition held within the County accorded second place in the Inter-County Clean Milk Competition.

3rd Prize, £10, to the County Competitor holding the highest position in any Clean Milk Competition held within the County accorded third place in the Inter-County Clean Milk Competition,

and to the head Cowman of the winners respectively £10, £8 and £6. The head Cowmen receiving these money prizes will also receive from the Association a free Railway Pass to London together with a ticket of admission to the London Dairy Show, so that they may receive the awards in person.

The Association has determined, therefore, that every award shall be made in accordance with the following conditions, and in compliance with the following scale of points.

CONDITIONS.

1. The Clean Milk Competitions Advisory Schemes for Milk Producers, Milkers' Competitions, and Demonstrations which shall be considered must be only those provided by the local Educational Authority, and recognised by the Ministry of Agriculture. The total entry in the Clean Milk Competition and/or the Advisory Schemes for Milk Producers must be not less than 20.

2. Any Clean Milk Competition to be eligible for recognition in this Competition :

(a) Must have been conducted in accordance with the directions given in the Guide to the Conduct of Clean Milk Competitions published by the Ministry of Agriculture (Bulletin No. 46).

(b) Must have been of not less than six months' duration covering the period January to June, inclusive, which alone will be considered.

(c) The system of bacteriological testing must have been carried out strictly in accordance with the methods prescribed in the Ministry's Guide.

(d) During the accounting period (January to June) the samples taken shall have been not less than 9, of which at least 3 shall have been surprise samples.

3. In order to equalise the scoring between large and small Counties and between Counties varying in respect of the concentration of milk production, marks shall be allowed based (a) on the percentage number of the total producers in the County attending the demonstrations ; (b) on the number of samples examined in connection with advisory schemes which reached a definite standard in respect of bacterial content and keeping quality ; (c) on the number taking part in the Clean Milk Competitions and (d) on the number of Milkers taking part in Milkers' Competitions.

4. An allowance of marks shall be made for the number of licensed producers of graded milk in the Competing County.

5. The holding of this Inter-County Competition in any year shall be dependent upon not less than four entries being received by the prescribed date, and when held, the announcements of the awards shall, for the year immediately preceding, be made in October at the Association's Annual Dairy Show.

6. The Competition year shall, for all purposes, be that which lies between July 1st and the next succeeding June 30th. Thus, the award to be made in October, 1934, shall be for the year commencing July 1st, 1933, and ending June 30th, 1934, it being understood :—

(a) That the accounting County Clean Milk Competition shall cover the period January 1st—June 30th in that year, and shall be accounted only for that period, no matter whether or not it exceeds that period.

(b) That the demonstrations, milkers' competitions and advisory schemes for milk producers shall be accounted for the full year.

(c) That the number of licensed producers shall be the number existing in the County Council area on the last day of the year (June 30th).

7. A County desiring to enter this Competition must provisionally signify the same in writing to the Secretary of the British Dairy Farmers' Association, 28, Russell Square, London, W.C. 1, not later than June 30th, 1933, and confirm such entry on or before December 31st, 1933. (There shall be no entrance fee).

8. A competing County must submit to the Secretary of the Association by August 30th, immediately succeeding the year of competition (a) a full report on the Clean Milk Competition; (b) full particulars of the milk examinations made in connection with advisory schemes for milk producers including dates of sampling; (c) a complete return in respect of the demonstrations and also milkers' competitions; and (d) a return in respect of the number and nature of the licensed producers of graded milk.

SCALE OF POINTS ON WHICH AWARDS SHALL BE MADE.

- (1) Relating to County Clean Milk Competitions and Advisory Schemes for Milk Producers. For each herd in excess of 30 (combined entry) 5 points :—

Number of herds taking part in the clean milk competition for first time	10 points for each.
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For each one per cent. of herds in the clean milk competition gaining not less than $66\frac{2}{3}$ per cent. of possible marks for inspection	5 points.
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Ditto for bacteriological count	5 „
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Ditto for absence of B. Coli ...	5 „
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Ditto for keeping quality ...	5 „
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Ditto for absence of sediment	2 „
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For each Competitor gaining 75% or over of the total marks available in the County Competition	5 points.
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In connection with the regular examination of milk samples in advisory schemes for milk producers. For each sample which judged in accordance with the scale of marks used in connection with clean milk competitions, would

have received 75% or more of the marks available, under each of the following heads :—
bacterial count, B. coli, and keeping quality, maximum ... 5 points.

(2) Relating to Clean Milk Production Demonstrations :—

On the relationship of the total number of attendances at Clean Milking Demonstrations to the total number of Dairy Farmers in the administrative area ... 5 pts. for each 1%

(3) Relating to Milkers' Competitions held under the direction of County Educational Authorities :—

2 points to be awarded for each Competitor in the Milking Competitions gaining 75% marks or over, and where there is a total number of at least twenty Competitors within the year an additional 3 points will be awarded for each 1% of Competitors gaining 75% marks or over.

(4) Relating to the number of licensed producers :—

For each licensed certified Milk producer ... 5 points.

For each Grade "A.T.T." Milk producer ... 5 "

For each Grade "A" Milk producer ... 3 "

with an additional allowance of 20 points for each producer taking out a license for Graded Milk, for the first time, during the year of competition.

The scoring of the competing Counties in accordance with the scale shall be carried out by a panel of judges appointed by the British Dairy Farmers' Association and consisting of :—

One nominee of the British Dairy Farmers' Association.

" " " National Institute for Research in Dairying.

" " " Ministry of Agriculture and Fisheries.

The decision taken by the panel of judges shall in all cases be final.

NOTE.—In each instance "County Area" means "County Council" area.

By order of the Council,

FRED J. BULL,

Secretary.

28, RUSSELL SQUARE,
LONDON, W.C. 1.

British Dairy Farmers' Association

PRIZE ESSAY ON A DAIRYING SUBJECT.

The Council offers a Prize of £15 and the B.D.F.A. Silver Medal for an Essay upon any practical or scientific subject relating to Dairy Farming or Dairying, conditionally upon sufficient merit being shown.

Preference will be given to one based on the original work and experience of the writer. Where the work of others is relied upon, full references must be given, either in footnotes or by numbers (1), (2), &c., with a list of authorities at the end.

The Essay should not exceed 5,000 words, and must be received by the undersigned on or before 1st December.

An Essay must be sent in a sealed envelope, bearing a *nom de plume*, and in another sealed small envelope, also bearing the *nom de plume*, the Author must insert his name and address.

The Prize Essay will be the property of the Association. Others will be returned to their respective Authors, but the Association reserves the right to retain Essays on subjects suitable for inclusion in the Annual Journal, which will be paid for at 10s. 6d. per Journal page.

FRED. J. BULL,

Secretary,

28, Russell Square, London, W.C.1.

The British Dairy Farmers' Association

Suggestions to Farmers as to how best to ensure THE CLEANLINESS OF THE MILK SUPPLY.

The attainment of a clean milk supply is largely dependent upon the action of Dairy Farmers themselves.

Every Dairy Farmer is financially interested in this question. Public doubt of the cleanliness of the milk supply means reduced demand for fresh milk. Public confidence means increased use of milk as food and drink—consequently a larger demand.

Any Dairy Farmer by want of reasonable care can jeopardise the reputation of the whole industry and thus destroy the good work of those whose efforts are to increase the consumption of milk.

The co-operation of every producer is confidently requested.

The main points to be emphasised are :—

- (1) That consumers are entitled to receive milk which is clean and wholesome.
- (2) That the precautions necessary to produce clean, wholesome milk are easy, simple and inexpensive.

Briefly these precautions are :—

To keep the milk sheds and cows as clean as possible.

To clean the udders and hindquarters and, before milking, wipe the udders with a clean damp cloth, rinsed after every cow.

To use a partly covered milking pail.

To see that milkers milk with clean hands.

To strain the milk through a strainer fitted with a suitable filtering medium which should be sterilised before each milking.

To empty water from cooler before washing.

To rinse utensils in cold water. Thoroughly wash in hot water and soda and scald in boiling water or, preferably, sterilise with steam or by boiling in water.

To stand utensils upside down to drain after cleaning and NOT to wipe them.

THIS ASSOCIATION APPEALS TO EVERY DAIRY FARMER TO PUT THESE PRECAUTIONS INTO OPERATION, BEING CONVINCED THAT IF PRODUCERS DO NOT TAKE MEANS TO ENSURE A CLEAN, WHOLESOME MILK SUPPLY THE DEMAND FOR FRESH MILK WILL SERIOUSLY DIMINISH.

Correspondence on this subject will receive attention at the Offices of the Association, 28, Russell Square, London, W.C. 1.

National Dairy Examination Board

APPOINTED BY

THE ROYAL AGRICULTURAL SOCIETY OF ENGLAND,
THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND
THE BRITISH DAIRY FARMERS' ASSOCIATION.

Regulations and Syllabus for the National
Diploma in the Science and Practice of Dairying,
1934

1. The Societies may hold annually in England and in Scotland, under the management of the National Dairy Examination Board appointed by them, one or more examinations for the National Diploma in the Science and Practice of Dairying; the Diploma to be distinguished shortly by the letters "N.D.D."

2. The Examinations will be held on dates and at places from time to time appointed and duly announced.

3. Forms of Entry for the Examination in England may be obtained from "The Secretary, Royal Agricultural Society of England, 16, Bedford Square, London, W.C. 1," and must be returned to him duly filled up, with the necessary entry fee (see Regulation 13).

4. Forms of Entry for the Examination in Scotland may be obtained from "The Secretary, Highland and Agricultural Society of Scotland, 8, Eglinton Crescent, Edinburgh," and must be returned to him duly filled up, with the necessary entry fee (see Regulation 13).

5. Any candidate may enter for the Examination either in England or Scotland, but not in both, and a candidate who has once taken part in an Examination in England cannot enter for an Examination in Scotland, or *vice versa*. *An exception may be made in favour of a candidate re-appearing under Regulation 11 (3) provided special application is made at the time of entry.*

6. As a preliminary to the acceptance of any application for permission to enter for the Examination, a candidate must produce :—

- (1) A certificate testifying that he or she has attended a Diploma Course in the subjects of the Examination covering *two academic years* at an approved Dairy Training Institution and has satisfied the authorities of the Institution of his or her fitness for admission to the Examination. This period shall include six session months' instruction (consisting of not more than two periods), in practical dairy work.
- (2) Evidence that he or she has spent at least six months on an approved Dairy Farm and taken part in the work. This period must not run concurrently with the six months' practical training referred to in subsection 1.

A Dairy Farm to be approved must have not fewer than fifteen cows kept in daily milking.

7. A candidate who has already taken a Degree in Agriculture of a British University, or a Diploma in Agriculture recognised by the National Dairy Examination Board, will be allowed to enter for the National Diploma in Dairying Examination after one year's training at an approved Dairy Training Institution, providing that such course includes at least six months' training in practical dairy work, and that he or she has worked for at least six months on an approved Dairy Farm.

8. In the Examination a candidate will be required to satisfy the Examiners by means of written papers, practical work, and *viva voce*, that he or she has :—

- (1) A general knowledge of the Management of a Dairy Farm, including the rearing and feeding of Dairy Stock, the candidate being required to satisfy the Examiners that he or she had had a thorough training and practical experience in all the details of Dairy work as pursued on a farm.
- (2) A thorough acquaintance, both practical and scientific, with everything connected with the management of a Dairy, and the manufacture of Butter and Cheese.
- (3) A general knowledge of Dairy Factory Management, Dairy Hygiene, Dairy Engineering and Dairy Book-keeping.

- (4) Practical skill in Dairying, to be tested by the making of Butter and Cheese.

NOTE.—A candidate must be prepared to make any one of the following varieties of Hard Pressed Cheese, the Examiner in Cheesemaking having the option of saying during the Examination what variety a candidate shall make :—

At the English Centre :—Cheddar, Cheshire or Derby.

At the Scottish Centre :—Cheddar, Dunlop or Cheshire.

9. Candidates will have the option of :—

(a) Taking the whole Examination at one time ; or

(b) Taking the Examination in two parts.

A candidate taking the Examination in two parts must take the following subjects at the first sitting : DAIRY FARMING, DAIRY HYGIENE, PRINCIPLES OF DAIRYING, DAIRY FACTORY MANAGEMENT AND DAIRY ENGINEERING, PRACTICAL CHEESEMAKING AND BUTTER-MAKING ; the remaining three Papers, CHEMISTRY AND PHYSICS, DAIRY BACTERIOLOGY, and DAIRY BOOK-KEEPING, to be taken at the Examination in the following year.

10. The maximum marks obtainable and the marks required for a pass in each subject are as follows :—

WRITTEN EXAMINATION—				Max.		Pass.
Dairy Farming ...	...	...	...	150	...	90
Dairy Hygiene ...	...	...	...	100	...	60
Dairying—						
(a) Principles of Dairying	...			150	...	90
(b) Dairy Factory Management and Dairy Engineering	...			100	...	50
Chemistry—						
(a) General Chemistry and Physics	}			100	...	60
(b) Dairy Chemistry						
Dairy Bacteriology ...	...	...	...	100	...	60
Dairy Book-keeping ...	...	...	...	100	...	50
PRACTICAL EXAMINATION—						
Hard-pressed Cheese-making	...	...	...	200	...	150
Blue-veined Cheese-making	...	...	...	100	...	75
Soft Cheese-making	...	...	...	100	...	75
Butter-making	...	...	...	200	...	150
				1,400	...	910

Honours will be awarded to candidates obtaining an aggregate of 80 per cent. (1,120) of the maximum marks (1,400) in the Examination, provided that they also obtain at least 80 per cent. (400) of the maximum marks (500) in the Dairy Farming, Hygiene, and Dairying papers.

11. A candidate taking the whole Examination at one time—
 - (1) who fails in any part of the practical examination shall fail in the whole examination.
 - (2) who fails in four or more subjects of the written examination shall fail in the whole examination,
 - (3) who having passed in the practical examination, fails in not more than three subjects of the written examination, may, at the discretion of the Board, appear for those subjects in the following year.
12. A candidate taking the Examination in two parts, and failing in a *single subject* in the first part of the Examination, may, at the discretion of the Board, appear for that subject along with the second part ; or, in the case of a *single subject* of the second part, in the following year. Failure in more than one subject will be regarded as failure in that part of the Examination. Failure in any part of the Practical Examination will entail complete failure.
13. The entrance fees will be as follow :—

	£	s.	d.
For the whole Examination taken at one time ...	3	3	0
For the Examination taken in two parts :			
First part	3	3	0
Second part	1	1	0
For re-appearance, 10s. 6d. each subject.			

14. The Board reserve the right to postpone, to abandon, or in any way or at any time to modify an Examination, and also to decline at any stage to admit any particular candidate to the Examination.

SYLLABUS OF SUBJECTS OF EXAMINATION

Answers to all Questions must be written in INK.

1.—DAIRY FARMING AND DAIRY HYGIENE.

(a) Dairy Farming.

Soils and Crops.—Types of Soils suitable for dairying. Rotations and systems of cropping. Cultivation, manuring and management of grain, root and forage crops used in dairying. Silage. Temporary and permanent pastures, haymaking.

Plant Physiology.—Roots, shoots, flowers, fruit and seeds of agricultural plants.

Dairy Cattle.—Characteristics of different breeds. Relation of conformation and appearance to Milk Yield. Choice of dairy cattle in relation to climate and soil. The milk yields of the more important breeds, and suitability for the milk trade, cream, butter and cheese production.

The management of a Dairy Herd. Cattle breeding and grading up of dairy stock. Calf rearing and management of young stock.

Milk Recording. Systems, and utilisation of results. Details of official schemes.

Foods and Feeding.—Summer and winter feeding of dairy cattle and young stock. Fodder crops and green forage. Roots. Ensilage. Concentrated foods, meals, cakes. Preparation of food. The effect of food on milk and its products.

Pig Keeping.—Characteristics of the more important breeds. The breeding, rearing and fattening of pigs. Production of pork and bacon.

Farm Management.—Systems of dairy farming. The selection, stocking and equipment of typical farms. Organisation of the farm and disposal of produce.

Dairy Economics.—The Dairy Industry of Great Britain and its relationship to Agriculture. The relative importance of the various products. The retail milk trade. Markets, Dairy organisation and co-operation. Modern developments in the Dairy industry. Sources of imported Dairy Produce.

(b) Dairy Hygiene.

Animal Physiology.—General functions of the organs of the animal body. Breeding. Parturition. The structure of the udder and the process of milk secretion. Changes which food undergoes during digestion.

Veterinary Science.—The more important diseases of dairy cattle and their treatment. The transmission and eradication of disease.

Milk Hygiene.—Sanitary conditions. Suitability of water supply. Methods of milking and handling of milk. Regulations affecting milk production. Milk in relation to Public Health.

Farm Buildings.—Situation, chief dimensions and construction of cow houses and dairy buildings. Housing for young stock and pigs. Air space and ventilation, drainage and water supply.

2.—DAIRYING.

(a) Principles of Dairying.

Milk—Milking by hand and machinery. Importance of cleanliness. Cooling of milk. Prevention of contamination. Pasteurisation. Sterilisation. Keeping of milk. Milk testing and sampling. Use of Gerber and Babcock Testers. Interpretation of results. Legal standards. Legislation affecting milk production.

Cream.—Separators and their management. Different systems of cream raising and ripening of cream. Changes during ripening. Natural and artificial ripening, and preparation and uses of starters. Preparation of cream for sale. Uses of preservatives. Clotted cream.

Butter.—Churns and butter-making appliances. Preparation of cream for churning. Washing and working butter. Butter milk. Packing and transmission of butter. Selection and keeping of butter. Salting. Use of preservatives. Characteristics of good butter and method of judging. Circumstances affecting the flavour, texture, colour and keeping qualities of butter. Potting butter for keeping. Causes of inferior butter.

Cheese.—Principles of manufacture. Appliances for cheese-making. The making of the principal varieties of British, Colonial and Continental cheese from cream, whole milk and skim milk. Acidity of milk. Common tests for acidity. Uses of rennet and its substitutes. Whey. Ripening and storage of cheese. Packing and sale of cheese. Making of cream and other soft cheese. Defects in cheese and their causes. Judging cheese.

(b) Dairy Factory Management and Dairy Engineering.

Factory Practice.—Milk depots and handling of factory milk. Systems of cooling and refrigeration. Pasteurisation. Factory butter and cheese-making. Milk Powders. Condensed milk. Frozen milk. Ice cream. Dried casein. Fermented milk. Lactose and whey-butter. Margarine manufacture. Equipment of milk depots, butter, cheese and dairy factories.

Factory Management.—Factory routine. Organisation of labour. Handling of milk on arrival at the factory. Methods of dealing with the milk. Milk contracts. Dairy factory legislation.

Dairy Appliances and Machinery.—Appliances used in the production and handling of milk, butter and cheese. Care and management of engines and boilers, dairy factory machinery, refrigerating machinery.

Buildings.—Situation, construction and drainage of creameries, milk depots and dairy factories.

3.—CHEMISTRY.

(a) General Chemistry and Physics.

Chemistry.—Elements, compounds and mixtures. Chemical symbols, formulæ and equations. Acids, bases, salts: their distinctive properties. Acidity and alkalinity; their quantitative

estimation. The Atmosphere: its constituents and impurities; influence on dairying operations. Water: its constitution; pure and natural waters; impurities in water and whence derived. Importance of a good water supply in dairying. General knowledge of elementary chemistry. Oxygen; hydrogen; carbon; nitrogen; phosphorus and sulphur; common metals; common acids; compounds of potassium, sodium, ammonium, calcium.

Elementary organic chemistry; sugar, milk sugar, starch, alcohol, acetic acid; formaldehyde, butyric acid, lactic acid, glycerine, saponification of fats; albumen, casein, pepsin.

Physics.—The different forms of matter; solid, liquid, gaseous. Specific gravity and instruments for determining it. Temperature and methods of measuring it. Expansion; thermometric scales. Influence of temperature in dairy operations. Atmospheric pressure and its measurement. Hygrometry. Heat and its measurement; specific heat. Latent heat. Conduction. Convection. Radiation. Solution. Filtration. Distillation. Simple machines, such as levers, pulleys and light weighing machine.

(b) Dairy Chemistry.

Chemistry of Milk.—The nature, composition, properties and chemical constituents of milk. Microscopical appearances presented by milk. The influence of feeding. The changes which occur in the keeping of milk, and how produced. The natural and artificial souring of milk. Rennet, its nature and uses.

Milk Products.—Physical and chemical changes involved in the making and keeping of butter and in the manufacture and ripening of cheese. Separated milk. Condensed milk. Fermented milk. Synthetic milk. The use of preservatives.

Dairy Analysis.—Analytical methods, their theory and practice. A general knowledge of the methods employed in the chemical analysis of milk, butter and cheese. Adulteration of milk, cream, butter and cheese, the ways in which adulteration is practised, the changes in composition thereby produced and a general knowledge of the methods employed in detecting the same.

Chemistry of Feeding.—The principal constituents of food materials and the functions they severally fulfil. The influence of food constituents on milk production. Assimilation and digestion. The manurial value of foods. Milk and milk products as foods.

N.B.—Candidates are required to bring to the Oral Examination their Laboratory note books in sections (a) and (b) of this subject certified by their teachers as being the record of their laboratory work carried out during the course.

4.—DAIRY BACTERIOLOGY.

General Bacteriology.—Bacteria; their form, classification, growth and reproduction. The microscope and its use. Staining and microscopic examination of bacteria. Methods of isolation and cultivation. Preparation of culture media. Fermentations and chemical changes produced by bacteria. Enzymes and their action. Effects of heat, cold, sterilisation, pasteurisation, disinfectants and preservatives on bacteria and enzymes. Bacteriological examination of water supplies.

Bacteriology of Milk.—The changes produced by bacteria in milk. Useful forms and their functions. Harmful forms and their effects. Coagulation, discolouration, taints, &c. Bacteriological and other standards in relation to the cleanliness of milk.

Milk Products.—The bacteria concerned in the ripening of cream and butter making. "Starters," their preparation and management. The ripening of hard, soft and blue-veined cheese. Bacteria injurious to milk products, including condensed and dried milk.

Dairy Mycology.—Moulds and yeasts in dairy practice. Their form, classification, growth and relation to dairy products.

N.B.—Candidates are required to bring to the Oral Examination in this subject their Laboratory notebooks certified by their teachers as being the record of their laboratory work carried out during the course.

5.—DAIRY BOOK-KEEPING.

Reasons for keeping accounts on the farm and in the dairy factory.

General principles of double-entry book-keeping. Use of day-book, journal, ledger, cash-book, analysis cash-book, and petty cash book. Preparation of profit and loss account, capital account and balance sheet. Adjustments necessary for the owner-occupier.

Valuations. Basis of valuations for accounting purposes on the farm and in the dairy factory. Dates for stock-taking.

Methods of accounting suitable for dairy farms and factories. Forms for milk-retailing, cheese-making, and butter-making.

Preparation of a cost account for milk production.

Interpretation and use of accounting results, with special reference to their practical application.

Opening a Bank account. Cheques, deposits, and over-drafts.

Assessment of the Farmer for Income Tax purposes.

6.—PRACTICAL SKILL IN DAIRY WORK.

Candidates must be prepared—(1) to produce before the Examination a satisfactory certificate of proficiency in the milking of cows, signed by a practical Dairy Farmer, and to satisfy the Examiners by a practical test, if so required ; (2) to churn and make into Butter a measured quantity of Cream ; and (3) to make one Cheese of each of the following varieties :—(1) Hard-pressed, of not less than 30 lb. (See Note to Reg. 8 (4). (2) Veined or blue-moulded of not less than 10 lb., and (3) also to make one or other of the following Soft Cheeses : Cambridge, Camembert, Coulommier, or Pont l'Évêque.

The British Dairy Farmers' Association

CERTIFICATE IN DAIRY FACTORY MANAGEMENT.

Candidates for the Certificate in Dairy Factory Management must fulfil the following conditions :—

1. They must possess an approved Diploma in Dairying.
2. They must have had six months' practical instruction at an approved dairy factory, or at an approved dairy factory school.
3. They must obtain 60 per cent. of the possible marks in the examination for the Certificate in Dairy Factory Management.

Examination for the **CERTIFICATE IN DAIRY FACTORY MANAGEMENT.**

1. Two papers will be set on the subjects outlined in the following syllabus.
2. Candidates will be examined orally in Factory Management with reference to the type of factory in which their practical training has been obtained.
3. Candidates must submit to the Examiners full notes of the work which has been carried out in the factories in which their practical experience has been obtained.

SYLLABUS OF EXAMINATION.

This Syllabus should not be viewed from a purely engineering standpoint, but students will be expected to have a general knowledge of the management of factory machinery :—

Paper 1.—Planning, Equipment and Management of a Dairy Factory.

Dairy Factories.—Site, building materials, construction, laying of floors, lighting, ventilation, drainage, sanitation, disposal and treatment of sewage and factory waste. Space requirements for the common types and sizes of factories.

Water Supply.—Water requirements ; sources of supply. Examination for quality and purity. Methods of purification. Suitability of water supplies for dairy purposes. Sites for wells. Construction of wells. Artesian wells. Pumps for deep and shallow wells. Air-lift pumps.

Factory Equipment.—Artificial lighting and sources of power in the factory. Equipment required for various types of factories and approximate cost of same. The disposition and control of factory machinery.

Steam Plant.—Types of vertical and horizontal boilers and their relative advantages and disadvantages. Sizes of boilers required in dairy factories. Evaporating power of boilers. Setting and insulation. Cleaning out of boilers. Economical firing. Fuel used, *e.g.*, coal, coke and wood. Cost and calorific value. Fuel consumption and cost of steam production. Allocation of steam supply to different purposes in the factory. Boiler smoke stacks and their construction. Boiler fittings, including donkey pumps and water injectors. Feed heaters. Methods of economising steam supply.

Factory Machinery.—Steam, gas and oil engines. Electric motors, turbines, water power, comparison of the various types and their relative efficiency. Construction and working of the various types. Cost of maintenance. Power requirements of the factory and the most suitable combinations of power when different sources of energy are available. The management and fitting up of machinery, including electric fittings. Adjustment of bearings. Packing of glands. Fixing of brackets, &c. Lubrication of machinery. Oil containers and filters. Lubricants. Lubrication of high-speed machinery. Oils and grease for shafting. Arrangement of machinery and methods of transmitting power. Belts, types and uses. Repairs to belting. Pulleys and gearing. Methods of increasing and reducing speed. Labour-saving devices. Tools required for a dairy factory.

Factory Plants.—Construction and operation of milk apparatus, including clarifiers, pasteurisers, separators, milk pumps, refrigerators, &c. Refrigerating machinery, CO₂ and ammonia. Methods of operation and management. Cold storage and brine cooling. Efficiency in the transfer of heat in heating and cooling apparatus. Methods of carrying out efficiency tests under different conditions and outputs. Factory appliances including cheese vats, holding vats, power churns, bottling machinery and other factory equipment. Their approximate cost and suitability of the various types. Methods of cleaning equipment, utensils and milk churns.

Factory Management.—Organisation of labour. Business management. Book-keeping. Cost accounts. Profit and loss in

manufacturing. Stock-taking and depreciation. Railway rates and conditions. Road transport. Systems and comparative costs. Advertising. Markets and sale of produce. Co-operative organisation.

Factory Law.—Law as far as it affects the factory, the management and the produce. Factory and Workshops Act. Workmen's Compensation. Health Insurance. Employer's Liability and Trade Boards Acts. Industrial and Provident Societies Act. Rivers Pollution Act. Sale of Foods and Drugs Act. Milk and Dairies Acts, and other legislation as it affects the working of factories and the manufacture and sale of dairy produce.

Paper 2.—Handling and Utilization of Milk and Milk Products.

Handling of Milk.—Purchase, collection and distribution of milk. Management of milk on arrival at the factory. Weighing, sampling, testing, recording and cleaning. Methods of paying for milk and cream.

Utilization of Milk.—Methods of dealing with milk for sale for cream production, buttermaking, cheesemaking, and for the manufacture of other products.

Factory Products.—Preparation of cream for market. The manufacture and treatment of butter and cheese. Manufacture of condensed and powdered milk, casein and milk sugar, &c. Ice cream manufacture, &c. The utilization of by-products.

Pig-Keeping.—Feeding and management of pigs. The production of pork and bacon. Bacon curing.

The Entry Fee for each Candidate is £4 4s.

Any further particulars and Entry Forms for this Examination may be obtained from—

THE SECRETARY,

BRITISH DAIRY FARMERS' ASSOCIATION,

28, Russell Square, London, W.C.1.

Examination for **CHEESEMAKING CERTIFICATE.**

The Association grants to any Candidate who satisfactorily passes the necessary Examination—

A Certificate of Merit for Proficiency in the Theory and Practice of Cheesemaking.

The Examination, which will extend over two or more days, will test the Theoretical Knowledge of the Candidates and their Practical Skill in Cheesemaking. Each Competitor will be required to answer, in writing, a set of questions within a given time, and will also be examined *viva voce*. On the same or following day a Practical Examination in Cheesemaking will take place.

Candidates will be considered to have passed the Examination if they obtain not less than 60 per cent. of the marks on each and every written paper and not less than 66 per cent. in the Practical Test.

Candidates for this Certificate must, at the time of entry, produce satisfactory evidence that they have received at least twelve months' instruction in the Theory and Practice of milk production and Cheesemaking, of which at least six months must have been spent at a recognised centre for dairy instruction. They must possess a sound knowledge of the subjects included in the following Syllabus.

Candidates will be required to make one Hard-pressed Cheese, either Cheddar, Cheshire or Derby, to be selected by the Examiner, and one Blue-veined Cheese, either Stilton or Wensleydale, to be selected by the Candidate. They must also have a knowledge of the manufacture of other varieties of Hard-pressed Cheese and of Soft Cheese.

Candidates are at liberty to bring their own utensils for the Practical Examination if they wish to do so.

The Examination for Cheesemaking Certificates is held at the British Dairy Institute, Reading, in the Autumn of each year, upon dates announced in the Agricultural and Dairy Press.

Entries will close 28 days prior to the date fixed for the Examination.

The Entry Fee is 10s.

SYLLABUS.

1. *Milk*.—The Food Value of Milk ; The Yield of Milk from various Breeds ; Secretion of Milk and Structure of the Udder ; Milking by Hand and Machine ; Handling of Milk from Cow to Dairy ; Importance of Cleanliness ; Production of Highest Grade Milk ; Cooling of Milk ; Sale of Milk ; Influence of Food on the Yield, Flavour and Fat Contents of Milk ; Composition of Milk, Nature and Properties of its Constituents ; Differences between Morning and Evening Milk and their Causes ; Methods of Sampling and Simple Methods of Testing Milk, as the Lactometer, Creamometer, and Centrifugal Fat Testers ; Testing for Acidity ; Causes of Fermentation ; Colostrum, its Nature and Properties ; the Keeping of Dairy Records ; the Handling of Evening's Milk for Cheesemaking ; Properties of Milk suitable for Cheesemaking ; Taints in Milk, their Causes, Effects and Remedies ; Tests for such Taints ; the Ripening of Milk for Cheesemaking ; Methods and Reasons for Ripening ; use of Natural and " Culture " Starters ; Pasteurisation of Milk ; Chilled Milk ; their subsequent use for Cheesemaking ; Special Testing of Milk, Whey, and Curd requisite in a Cheese Dairy ; Utilization of Dairy By-products.
2. *Cheese*.—Rennet : its Preparation, Properties, and Action upon Milk ; Testing its Strength ; Storage of Rennet ; Substitutes for Rennet ; Anatto ; a General Knowledge of the Manufacture of the Principal Varieties of Hard-pressed, Blue-veined and Soft Cheeses, including the use of wood and metal tubs and jacketed vats ; Methods of Scalding ; the Development and Control of Acidity in Curd ; Salting and Brining in Cheesemaking ; Bandaging ; Ripening and Storing of Hard-pressed, Blue-veined and Soft Cheeses ; Defects in Cheese and their Causes ; Composition of Cheese ; Composition and Utilization of Whey ; the Manufacture of Whey Butter ; the Equipment of a Cheese Dairy and its Cost ; the care of Utensils ; the Detailed Principles and Practice requisite for the Manufacture of one of the following types of Cheese :—
 - (a) A Hard-pressed British Cheese (not less than 25 lbs. weight).
 - (b) A Blue-veined British Cheese (not less than 10 lbs. weight).

Any further particulars and Entry Forms for this Examination may be obtained from—

THE SECRETARY,
BRITISH DAIRY FARMERS' ASSOCIATION,
28, Russell Square, London, W.C. 1.

Examination for
BUTTERMAKING CERTIFICATE.

The Association grants to any Candidate who satisfactorily passes the necessary Examination—

**A Certificate of Merit for Proficiency in the Theory and Practice of
Buttermaking.**

The Examination, which will extend over two or more days, will test the Theoretical Knowledge of the Candidates and their Practical Skill in Buttermaking. Each Competitor will be required to answer, in writing, a set of questions within a given time, and will also be examined *viva voce*. On the same or following day a Practical Examination in Buttermaking will take place.

Candidates will be considered to have passed the Examination if they obtain not less than 60 per cent. on each and every written paper, and not less than 66 per cent. in the Practical Test.

Candidates for this Certificate must, at the time of entry, produce satisfactory evidence that they have received at least three months' instruction (not necessarily at a Dairy School) in the theory and practice of Milk and Cream production and management, and Buttermaking. They must possess a sound knowledge of the subjects included in the following syllabus.

Candidates are at liberty to bring their own utensils for the Practical Examination if they wish to do so.

The Examination for Buttermaking Certificates is held at the British Dairy Institute, Reading, in the Autumn of each year, upon dates announced in the Agricultural and Dairy Press.

Entries will close 28 days prior to the date fixed for the Examination.

The Entry Fee is 5s.

SYLLABUS.

1. *Milk*.—The Food Value of Milk ; the Yield of Milk from various Breeds ; Secretion of Milk and Structure of the Udder ; Milking by Hand and Machine ; Handling of Milk from Cow to Dairy ; Importance of Cleanliness ; Production of Highest Grade Milk ; Cooling of Milk ; Sale of Milk ; Influence of Foods on the Yield, Flavour and Fat Contents of Milk ; Composition of Milk, Nature and Properties of its constituents ; Differences between Morning and Evening Milk and their causes ; Methods of Sampling and Simple Methods of Testing Milk, as the Lactometer, Creamometer, and Centrifugal Fat Testers ; Testing for Acidity ; Causes of Fermentation ; Colostrum, its Nature and Properties ; the Keeping of Dairy Records.
2. *Cream*.—The Various Methods of Obtaining Cream ; the Construction and Use of the Utensils employed ; Separators, the Construction and Use of the various Types ; Composition of Cream, Separated Milk, Skimmed Milk, and Buttermilk, with Simple Tests for Fat in same ; the Ripening of Cream—Objects and Results ; Changes during Ripening ; Testing for Acidity ; Natural and Artificial Ripening and Preparation of Starters ; the Preparation of Cream for Churning ; Preparation of Cream for Sale ; Clotted Cream.
3. *Butter*.—The Various Methods of obtaining Butter, including the Churning of Whole Milk ; Utensils required, and the Preparation, Use, and Care of same ; the Process of Butter Manufacture in all its details ; Conditions which affect the Butter Yield ; Circumstances affecting the Flavour, Texture, Colour, and Keeping Properties of Butter ; Dry-salting and Curing of Butter ; Faults in Butter and their Causes ; Composition and Properties of Good Butter ; Composition and Causes of Inferior Butter ; Methods of Judging Butter.

Any further particulars and Entry Forms for this Examination may be obtained from—

THE SECRETARY,

BRITISH DAIRY FARMERS' ASSOCIATION,

28, Russell Square, London, W.C. 1.

EXAMINATIONS AT LOCAL CENTRES.

In order to meet the convenience of Students at Dairy Schools, members of local Societies, and other persons, the Association will conduct Examinations for its Certificates at any place in the United Kingdom upon receiving satisfactory proof that the following conditions will be observed :—

That the School, Society, County Council, or other body requesting such Examination to be held undertake :—

- (1) To supply all necessary appliances and materials.
 - (2) To pay the fees and expenses of the Examiners.
 - (3) To supply the milk required free from preservatives and fit for Cheesemaking.
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Copies of Question Papers set at recent Examinations may be obtained at 3d. per copy.

Applicants are requested to state whether Cheese or Butter questions are required.

Further particulars and Entry Forms for Students may be obtained from—

THE SECRETARY,

BRITISH DAIRY FARMERS' ASSOCIATION,

28, Russell Square, London, W.C. 1.

National Dairy Examination Board

Appointed by the Royal Agricultural Society of England, the Highland and Agricultural Society of Scotland, and the British Dairy Farmers' Association.

Report on the Results of the Thirty-ninth Examination for the National Diploma in Dairying 1934

1. The sixth Examination under the auspices of the present Board—and the Thirty-ninth Annual Examination for the National Diploma in Dairying—was, by the courtesy of the Authorities, held during September at the University and British Dairy Institute, Reading, for English and Welsh students, and at the Dairy School for Scotland, Auchincruive, Ayr, for Scottish students.

2. As a preliminary to the acceptance of an application for permission to enter for the examination, a candidate was required to produce :—(1) A certificate testifying that he or she had attended a Diploma Course in the subjects of the Examination covering *two academic years* at an approved Dairy Training Institution ; (2) Evidence that he or she had spent at least six months on an approved Dairy Farm and taken part in the work.

3. A candidate who had already taken a Degree in Agriculture of a British University or a Diploma in Agriculture recognised by the Board, could enter for the Examination after one year's training at an approved Dairy Training Institution, providing that such course included at least six months' training in practical dairy work, and that he or she had worked for at least six months on an approved Dairy Farm.

4. The written Examination included papers in Dairy Farming, Dairy Hygiene, Principles of Dairying, Dairy Factory Management and Dairy Engineering, Chemistry and Physics, Dairy Bacteriology, and Dairy Bookkeeping. The Practical Examination comprised Hard-pressed, Blue-veined, and Soft Cheese-making, and Butter-making.

5. A candidate had the option of taking the whole examination at one time, or of taking only Part I., which omits Chemistry, Bacteriology and Book-keeping. These last three subjects—constituting Part II.—have to be taken at the examination of the year following that at which Part I. was passed.

6. A candidate taking the whole examination, who, having passed in the practical examination, failed in not more than *three* subjects of the written examination might, at the discretion of the Board, appear for those subjects in the following year. A candidate who failed in four or more subjects of the written examination, or in any part of the practical examination, failed in the whole examination.

7. A candidate taking the examination in two parts, and failing in a *single subject* in Part I., might at the discretion of the Board, appear for that subject along with Part II. ; or, in the case of a *single subject* of Part II., in the following year. Failure in more than one subject was regarded as failure in that part of the Examination. Failure in any part of the practical examination entailed complete failure.

8. At both Centres the same Questions were answered by the candidates from September 6 to 8. The Practical Examination as well as the *viva voce* was conducted at the Scottish Centre from September 11 to 15 and at the English Centre from September 18 to 21.

9. Forty candidates presented themselves at the Scottish Centre, of whom eight were re-examined in subjects in which they had previously failed ; 31 took the whole examination and one appeared for Part I. Twenty-one candidates succeeded in passing the examination, but no Honours were awarded. Following are the names of the Diploma-winners in alphabetical order :—

SCOTTISH CENTRE.

DIPLOMA.

Beatrice A. Birnie, Agnes A. Blackwood, Helen S. M. Boyd, Charles M. Brayshaw, William D. Carson, Joseph A. Duncan, Elizabeth R. W. Dunsmore, Charles P. Howard, Arthur F. Johnson, Hugh N. MacArthur, Frank R. Melvin, James Parlane, William Paterson, Barbara G. Redpath, Rawson Robertshaw, George F. Ross, Dorothy M. H. Steele, W. Elizabeth Teare, Frank N. Turner, Frank I. Williams, John M. Wilson.

Seven candidates failed in not more than three subjects, for which they will be permitted to reappear in 1935.

All the candidates at the Scottish Centre had been students at the Dairy School for Scotland, Auchincruive, Ayr.

10. Of the 57 candidates who presented themselves at the English Centre 12 appeared for re-examination in subjects in which they had previously failed, 43 took the whole examination, and two entered for Part I. only.

Thirty-two candidates were awarded the Diploma, but none attained to the Honours standard. The names of the successful candidates, in alphabetical order, are as follows:—

ENGLISH CENTRE.

DIPLOMA.

Marjorie H. Ashton, Frances J. Atkinson, Ella M. Bartle, Margaret E. Bradshaw, William A. Buckpitt, Dione Chapman, Ruth M. C. Christie, Dorothy K. Cockerill, Eunice L. Coleman, Edith Dinning, Jack Doyle, Michael F. Essame, Barbara R. Fairbridge, Norah Gerrard, Henry W. Hicks, George H. Hughes, Alan W. Isherwood, William G. Lawrance, John Lewis, Thomas H. Matthews, Edna G. Mills, Mary D. Morris, Evelyn G. Neeson, Margaret E. Phillips, Charles V. Pike, Hamilton J. Ridler-Rowe, William A. Scriven, Sara J. Shotton, Frank Skinner, Arthur T. Thwaites, Grace Ugalde, John W. Ward.

Ten candidates failed in not more than three subjects, for which they will be allowed to reappear at next year's Examination.

11. The Examiners at both Centres were: Alex. F. Smith, N.D.A., N.D.D., C.D.D. (*Dairy Farming, Dairy Hygiene and Practical Butter-making*); Edward Capstick, M.C., M.Sc., N.D.A., N.D.D. (Hons.), (*Principles of Dairying, Dairy Factory Management and Dairy Engineering, and Practical Cheese-making*); T. J. Drakeley, D.Sc., Ph.D., F.I.C. (*Chemistry and Physics*); A. T. R. Mattick, B.Sc., Ph.D. (*Dairy Bacteriology*); James Wyllie, B.Sc., N.D.A. (Hons.), N.D.D. (*Dairy Book-keeping*).

Results of Examinations held by the British Dairy Farmers' Association during 1934.

EXAMINATION FOR BUTTERMILKING CERTIFICATE AT THE SOMERSET FARM INSTITUTE, CANNINGTON; ON MONDAY, TUESDAY AND WEDNESDAY, MARCH 26TH, 27TH, AND 28TH.

A Certificate of Merit for Proficiency in the Theory and Practice of Buttermilking awarded to Ella Alvis, Ethel E. Hilborne, Margaret G. Hosking, Esther E. Law, Margaret Lewis, Muriel Lintern, Gwendolen J. Mann, Olive K. Osborne, Robert W. Purnell, Marjorie J. Richards, Sylvia Southwood and Doris I. Westacott.

A Certificate of Merit for Proficiency in the Theory and Practice of Cheesemaking awarded to Grace Bennett, Dorothy Connett and Robert Moxham.

EXAMINATION FOR BUTTERMILKING AND CHEESEMAKING CERTIFICATES AT THE FARM INSTITUTE, SPARSHOLT; ON TUESDAY, WEDNESDAY AND THURSDAY, JULY 10TH, 11TH AND 12TH.

A Certificate of Merit for Proficiency in the Theory and Practice of Buttermilking awarded to Zoë S. Anning, Kathleen M. Ash, Joan M. Coleman, Dorothy L. Dunbar, Kathleen E. Foot, Doris E. Goodall, Kathleen E. Goodall, Dorothy M. Irvine, Peggy G. Pratt and Frances J. Toghill.

A Certificate of Merit for Proficiency in the Theory and Practice of Cheesemaking awarded to Zoë S. Anning, Joan M. Coleman, Dorothy L. Dunbar, Doris E. Goodall, Dorothy M. Irvine and Frances J. Toghill.

EXAMINATION FOR BUTTERMILKING CERTIFICATE AT THE SEALE-HAYNE AGRICULTURAL COLLEGE, NEWTON ABBOT; ON MONDAY AND TUESDAY, JULY 16TH AND 17TH.

A Certificate of Merit for Proficiency in the Theory and Practice of Buttermaking awarded to William K. Letheren, Thomas H. Matthews, George J. Nottidge, Roy S. G. Salter, William Scriven and George D. Winter.

EXAMINATION FOR BUTTERMILKING AND CHEESEMAKING CERTIFICATES AT STUDLEY COLLEGE, STUDLEY; ON MONDAY, TUESDAY AND WEDNESDAY, JULY 23RD, 24TH AND 25TH.

A Certificate of Merit for Proficiency in the Theory and Practice of Buttermaking awarded to Cecily A. Brent-Good, Helen T. Brown, Rose de Komar, Joanna L. N. Lindsell, Dorothea M. Plowden, Doris M. Stoodley, Barbara C. Taylor, Florence P. Trevelyan and Hendrika F. G. van Beuningen.

A Certificate of Merit for Proficiency in the Theory and Practice of Cheesemaking awarded to Joyce A. Holden and Dorothea M. Plowden.

EXAMINATION FOR BUTTERMILKING AND CHEESEMAKING CERTIFICATES AT THE AGRICULTURAL INSTITUTION, USK, MONMOUTHSHIRE; ON MONDAY, TUESDAY AND WEDNESDAY, AUGUST 13TH, 14TH AND 15TH.

A Certificate of Merit for Proficiency in the Theory and Practice of Buttermaking awarded to Arthur J. Bond, Daphne Bradshaw, Marjorie Bullett, Harold L. Davies, Kathleen M. Harvey, Beatrice James, Evelyn P. Lewis, Nesta M. Lewis, Thomas L. Lewis, Jane A. Morgan, Virginia Purves, John C. Robinson, Robert W. E. Seaton, Marion E. Townsend, Ion Fitzgibbon, Iorwerth G. Watkins and Joyce Williams.

A Certificate of Merit for Proficiency in the Theory and Practice of Cheesemaking awarded to Daphne Bradshaw, Evelyn P. Lewis, Nesta M. Lewis, Jane A. Morgan and Virginia Purves.

EXAMINATION FOR CHEESEMAKING CERTIFICATE AT THE SEALE-HAYNE AGRICULTURAL COLLEGE, NEWTON ABBOT; ON THURSDAY AND FRIDAY, AUGUST 30TH AND 31ST.

A Certificate of Merit for Proficiency in the Theory and Practice of Cheesemaking awarded to Henry W. Hicks.

EXAMINATION FOR BUTTERMILKING AND CHEESEMAKING CERTIFICATES AT THE BRITISH DAIRY INSTITUTE, READING; ON MONDAY, TUESDAY AND WEDNESDAY, SEPTEMBER 10TH, 11TH AND 12TH.

A Certificate of Merit for Proficiency in the Theory and Practice of Buttermaking awarded to Ella M. Bartle, Margaret E. Bradshaw, Daisy M. Bragg, William A. Buckpitt, Lloyd A. Burfitt, Dione Chapman, Colin G. Clarke, Marion G. Dobson, Joyce Grindon, Kathleen M. Hoare, Agnes H. Holmes, Alan W. Isherwood, Sylvia M. Mathews, Margaret H. Muir, Charles V. Pike, Joan Rudd, Joan M. Stokes, Grace Ugalde, Mohamed Wasfi and Henry W. Williams.

A Certificate of Merit for Proficiency in the Theory and Practice of Cheesemaking awarded to Ella M. Bartle, Margaret E. Bradshaw, Daisy M. Bragg, William A. Buckpitt, Lloyd A. Burfitt, Dione Chapman, Eunice L. Coleman, Marion G. Dobson, Kathleen M. Hoare, Agnes H. Holmes, Alan W. Isherwood, Sylvia M. Mathews, Margaret H. Muir, Charles V. Pike, Joan M. Stokes and Grace Ugalde.

National Dairy Examination Board

Papers set for the National Diploma in Dairying,
September, 1934

DAIRY FARMING.

(Time allowed, three hours).

All Questions to be attempted.

1. How would you treat pasture land which is badly affected with moss or fog ?

2. In what quantity and in what form would you apply lime to :—

(a) Arable Land ; (b) Pasture Land ?

Would the type of soil affect your choice of any particular form of Lime ? Give reasons.

3. What are your views in regard to potatoes as food for :—

(a) Dairy Cows ; (b) Fattening Pigs ?

How would you prepare the potatoes and what quantity would you use ?

4. In buying a dairy cow, for immediate use, at an auction mart, what particulars would you pay special attention to ? Would you prefer a calved or an uncalved cow ? Give reasons.

5. Write a short and condensed essay (not exceeding two pages of your book) on what you consider to have been the effect generally of the Milk Marketing Scheme in England and Wales or in Scotland (South of the Grampians).

6. What methods of treatment and cultivation of land would you adopt in an area subject to drought ? Give reasons.

7. State exactly the characteristics of a good seed sample of :—

(a) Oats. (b) Perennial Rye Grass. (c) Potatoes.

What particulars would you ask the seller to supply in each case ?

DAIRY HYGIENE.*(Time allowed, two hours).*

All Questions to be attempted.

1. If you wish to dry off a cow, state exactly how you would proceed.
2. In selecting (a) Cattle (b) Pigs for breeding purposes, what particular points would you regard as of importance in the case of the Male and of the Female ?
3. Write a short description (not exceeding two pages of your book) on John's disease.
4. Give details of various types of flooring for cow stalls and discuss their respective merits.
5. What treatment would you apply to a cow showing signs of choking ?
6. What are your views regarding the suggestion that all milk (other than graded milk) should be pasteurised ?

PRINCIPLES OF DAIRYING.*(Time allowed, three hours).*

Seven Questions only to be attempted.

1. What are the most common faults of :—
(a) Hand Milking, (b) Machine Milking ?
2. Briefly describe the production of Sterilised Milk for retail sale. What is the keeping quality of such milk ?
3. What is the principle underlying mechanical separation ? How is this adapted and amplified in the cream separator ? Mention any new development in mechanical separation which has recently been introduced. What is its particular advantage ?
4. Enumerate the factors which affect the flavour, texture and keeping qualities of butter.
5. State the modifications you would make in the normal manufacturing process when using pasteurised milk for Cheddar cheese making. Give the reason for each modification.

6. What are the essential differences in the manufacture of Cheddar and Cheshire cheese which give rise to their characteristic textures ?

7. What do we in Britain consider to be ideal conditions for the curing of hard cheese ? How can they be most economically obtained ? Are any different methods in use in other countries ?

8. What effect will each of the following have on the Cheddar making process ?

- (a) High renneting temperature.
- (b) Excessive acidity at renneting.
- (c) Over-rapid scald.
- (d) Insufficient cutting of the curd.
- (e) Use of excessive salt.

DAIRY FACTORY MANAGEMENT & DAIRY ENGINEERING.

(Time allowed, two hours).

Five Questions only to be attempted.

1. Given 70 gallons whole milk 3.5% butter fat, unlimited cream (52% butter fat), sweetened skim condensed milk, sugar and gelatine, calculate the quantities of each required to produce 100 gallons of balanced ice cream mixture with 14% butter fat. Show your calculations and state the approximate analysis of the mix.

2. What are the following, and where are they to be found in a large dairy ?

- | | |
|----------------------------|--------------------|
| (a) Fusible Plug | (d) Expansion Bend |
| (b) Low Water Safety Valve | (e) Reducing Valve |
| (c) Injector | (f) Steam Trap |

3. Give the plan and elevation of a country creamery, where cheese and butter is made, capable of handling 10,000 gallons of milk per day. State briefly the advantages of the lay-out given.

4. What staff would you require for the above creamery and how would you organise them ?

5. With the aid of a diagram describe the mechanical refrigeration cycle. State the usual pressures of two of the commonest gases used at the different stages in the cycle.

6. Compare and contrast sweetened and unsweetened condensed milk under the following headings :—

(a) Composition, (b) Ratio of concentration, (c) Yield in relation to raw material, (d) Keeping quality.

CHEMISTRY AND PHYSICS.

(Time allowed, two hours).

Answer Five Questions.

1. What differences may exist between a water supply which is fit, and one which is totally unsuitable, for dairy purposes? What effects may drought have on the quality of a water supply?

2. It has been suggested that a regulation should be made to the effect that a cheese containing less than 45 per cent. of fat in the dry material should be presumed not to have been made from whole milk. Do you think this statement is justified; if so, why?

3. What is a hygrometer? Explain fully the purposes for which it may be employed in dairying operations.

4. Heat may be transferred by conduction, convection, and radiation. Distinguish carefully between these processes, and give an illustration of each case.

5. How may casein be prepared from separated milk? Describe its properties, and mention some of its uses.

6. Write an essay on *one* of the following :—

(a) oxygen, (b) the thermometer, (c) fermentation.

DAIRY BACTERIOLOGY.

(Time allowed, two hours).

Answer Five Questions Only.

1. Give the main characters of the genus *Lactobacillus* and state the method you would use for the isolation of any one species with which you are familiar. What function have these bacteria in cheese ripening? How would you propagate a culture for use in the preparation of "fermented" milk?

2. Describe with sketches three moulds which are encountered in dairy practice. Contrast their reproductive processes with those of bacteria and yeasts.

3. What is an enzyme? Describe three enzymes which occur in milk or dairy products and give an account of the conditions necessary for their optimum working and the changes for which they are responsible.

4. How would you identify the following organisms?
(1) *Bacterium aerogenes*, (2) *Mycobacterium* (*Bacillus*) *tuberculosis*,
(3) *Streptococcus lactis*, (4) *Bacillus subtilis*.

5. Describe methods suitable for the determination of (a) the total number and (b) the living micro-organisms present in a sample of milk.

6. Define the following terms as applied to bacteria :—(a) thermophilic, (b) thermoduric, (c) aciduric. Give instances of the occurrence of organisms of each type in milk or dairy products.

DAIRY BOOK-KEEPING.

(Time allowed, three hours).

Three questions to be attempted; one must be No. 1, which should be completed before answering Nos. 2, 3 or 4.

MARKS WILL BE GIVEN FOR ACCURACY AND NEATNESS.

1. Mr. John Smith is tenant of the farm of Borrodale and makes up his accounts to 31st March each year. He has a Milk Round in a neighbouring town and his accounts are kept in such a way as to show the separate results from the farm and the milk round.

From the information given below prepare (a) Balance Sheet at 31st March, 1933; (b) Statement of Accounts for 1933/34 for the Farm and for the Milk Round; and (c) Balance Sheet and Capital Account at 31st March, 1934. (You may show any subsidiary accounts which you think are necessary.).

Valuations	At 31st March, 1933				At 31st March, 1934			
	£				£			
Horses	50	...	...	...	40
Dairy Stock	535	...	...	...	447
Sheep	123	...	...	...	95
Pigs	10	...	...	...	17
Poultry	47	...	...	...	57
Machinery and Implements...	362	...	...	...	350
Motor Car	24	...	...	...	40
Crops	416	...	...	...	476
Sundry stores...	124	...	...	...	101
Milk Round—Lorry, &c.	227	...	...	...	249
				<u>£1,918</u>				<u>£1,872</u>

At 31st March, 1933, sundry debtors owed him £192 while he owed sundry creditors £139. His bank overdraft was £272 and he had £10 cash in hand.

Receipts for 1933/34.				£					£
Dairy Stock ... ..	...	...	39	Crops ... ..	...	...	...	1,347	
Sheep ... ..	...	...	82	Private ... ..	...	...	...	164	
Pigs ... ..	...	...	21	Milk Round Takings ... ..	...	...	...	861	
Poultry and Eggs ... ..	...	...	9	Sundry Debtors at					
Old Car ... ..	...	...	10	31-3-33 ... ..	...	...	...	181*	
Keep of Stock ... ..	...	...	18						
									<u>£2,732</u>

*Balance of Sundry Debtors written off as a bad debt in the Round Account.

Payments for 1933/34.			£		£
Dairy Stock ...	...	4		Wages and N.H.I. ...	639
Poultry and Eggs ...	...	19		Rent and Rates... ..	156
Live Stock Expenses ...	...	12		Repairs and renewals ...	101
New Implements ...	...	7		Insurances	13
Motor Car ... ..	...	40		Farm Sundries	79
Foodstuffs ... ..	...	301		Private	245
Manures ... ..	...	54		Milk Round—Wages, &c.	597
Seeds ... ..	...	52		Sundry creditors at	
Stores ... ..	...	125		31-3-33	139
					<hr/> £2,583 <hr/>

During the year milk to the value of £491 and eggs to the value of £94 were transferred from the Farm to the Round Account.

The estimated value of the farm produce used in the farm house was £11 and of sundry stores (coals, paraffin, &c.) £18. It was also decided to charge Mr. Smith's Private Account with £28 for the use of the motor car, £15 for rent and rates on the farmhouse, and £15 for work done in the garden.

At 31st March, 1934, sundry debtors were owing for crops sold £19, keep of stock £23, and milk round sales £175; while Mr. Smith was owing sundry creditors for foodstuffs £22, manures £14, seeds £20, rent £63, sundry farm items £10 and sundry milk round items £8.

At this date he had £12 cash in hand.

2. Mr. Smith's detailed accounts for 1933/34 showed that he had lost £185 on the Dairy Stock and Milk Production Account. Describe clearly what records you would advise him to keep so that he might discover the factors which were chiefly responsible for this loss.

3. Mention the kind of dairy factory with which you are most familiar and give a short account of the account books which are kept.

4. Why is the basis on which the annual valuations are made so important in book-keeping? Give examples. Is it possible to show (a) "fictitious" profits, and (b) "fictitious" assets in farm accounts? If so, give examples.

EXAMINATION FOR BUTTERMAKING CERTIFICATE
AT SOMERSET FARM INSTITUTE, CANNINGTON,
MONDAY, TUESDAY, AND WEDNESDAY, MARCH 26TH,
27TH AND 28TH, 1934.

EXAMINER :
MISS N. BENNION.

Three hours are allowed for this paper.

Candidates are requested to make their answers as brief as possible. Each answer should be written on a separate sheet of paper, and the sheets should be fastened together in order in the left-hand corner. The top sheet should bear the name of the Candidate.

Each question carries the same number of marks, and Candidates gaining not less than 60 per cent. will pass.

Candidates will subsequently be examined *viva voce*.

QUESTIONS.

1. What are the common causes of taints in milk and how would you avoid them ?
2. Why is the production of clean milk so important to a milk selling farmer ? What points should be observed to obtain milk of a low bacterial count ?
3. Describe in detail the manufacture of sweet cream butter. State the advantages and disadvantages of its manufacture when compared with the standard method.
4. What is the cause of cream taking a long time to churn ? What measures would you take to avoid this fault ?
5. Write a short account of the production of cream, making special reference to its preparation for the retail trade.
6. What influence have foodstuffs on the flavour, texture and colour of butter ?
7. What are the chief features of good butter ?

Give the causes and remedies of the following faults :—

1. Open texture,
 2. White specks,
 3. Streaky colour,
 4. Poor colour,
 5. Inferior keeping quality.
8. Explain the principle of the separator.
How can you regulate the thickness of cream taken off ?
 9. What are the regulations regarding the sale of milk under the Milk Marketing Scheme ?

EXAMINATION FOR CHEESEMAKING CERTIFICATE AT
SOMERSET FARM INSTITUTE, CANNINGTON, MONDAY,
TUESDAY AND WEDNESDAY, MARCH 26TH, 27TH AND 28TH,
1934.

EXAMINER :
MISS N. BENNION.

Three hours are allowed for this paper.

Candidates are requested to make their answers as brief as possible. Each answer should be written on a separate sheet of paper, and the sheets should be fastened together in order in the left-hand corner. The top sheet should bear the name of the Candidate.

Each question carries the same number of marks, and Candidates gaining not less than 60 per cent. will pass.

Candidates will subsequently be examined *viva voce*.

QUESTIONS.

1. What tests would you recommend for the judging of milk when buying in large quantities for cheesemaking ?
Under what conditions would you consider it unsuitable ?
2. What is the difference between pasteurisation, refrigeration and sterilisation ? State their uses in the dairying industry.
3. Give the normal acidity of the following :—
 - (a) The evening's milk before adding the starter the next morning.
 - (b) Starter when ready for use.
 - (c) Milk when ready for rennetting in the making of a Cheshire cheese.
 - (d) Curd when ready for salting in the making of a Caerphilly cheese.
4. What conditions favour the action of rennet ?
5. Give the causes and effects of excessive moisture in the making of Cheddar cheese.
6. What are the essential characteristics of soft cheeses ? Give the important points to be considered for their successful manufacture.
7. What are the chief differences between Stilton cheese and a Wensleydale cheese ?
How is it that some cheeses take a long time in developing the mould ?
8. What changes take place in the ripening of hard pressed cheese ?
What conditions affect loss of weight in cheese ripening ?

EXAMINATION FOR BUTTERMaking CERTIFICATE AT
THE FARM INSTITUTE, SPARSHOLT; ON TUESDAY,
WEDNESDAY AND THURSDAY, JULY 10TH, 11TH AND
12TH, 1934.

EXAMINER: MISS V. E. CHEKE.

Three hours are allowed for this paper.

Candidates are requested to make their answers as brief as possible. Each answer should be written on a separate sheet of paper, and the sheets should be fastened together in order in the left-hand corner. The top sheet should bear the name of the Candidate.

Each question carries the same number of marks, and Candidates gaining not less than 60 per cent. will pass.

Candidates will subsequently be examined *viva voce*.

QUESTIONS.

1. What are the objects of the following procedures :—
(a) Cooling of milk before sale, (b) Sterilization of utensils ?
2. How would you obtain a representative sample for fat testing from :—
(a) the milk of individual cows,
(b) milk arriving at the dairy in churns ?
3. Describe two methods of preparation of Scalded Cream. What are the important points to consider when packing the following for market :—
(a) Scalded cream, (b) Raw cream, (c) Fresh butter ?
4. Describe the preparation of "starter" from a powder culture, and method by which it could be maintained for daily use in the dairy.
5. A sample of butter shows interior white specks and streaks, and has a rancid flavour. To what causes might these defects be due ?
6. Compare the gravimetric and centrifugal methods of cream separation. What percentage of fat would you expect to be present in :—(a) Separated milk, (b) Skim milk, (c) Butter milk, (d) Cream for buttermaking, (e) Butter ?
7. Discuss the factors which influence the colour of butter. What amount of artificial colouring can be used, and in what circumstances is its use advisable ?
8. Describe the handling of cream for the manufacture of :—
(a) Pasteurized sweet cream butter, (b) Ripened cream butter.
9. How would the following influence the texture and flavour of butter :—(a) Cream ripened at 80°F., (b) Cream churned at 68°F., (c) Butter stored in moist atmosphere at 50°F ?

EXAMINATION FOR CHEESEMAKING CERTIFICATE AT
THE FARM INSTITUTE, SPARSHOLT; ON TUESDAY,
WEDNESDAY AND THURSDAY, JULY 10TH, 11TH AND
12TH, 1934.

EXAMINER: MISS V. E. CHEKE.

Three hours are allowed for this paper.

Candidates are requested to make their answers as brief as possible. Each answer should be written on a separate sheet of paper, and the sheets should be fastened together in order in the left-hand corner. The top sheet should bear the name of the Candidate.

Each question carries the same number of marks, and Candidates gaining not less than 60 per cent. will pass.

Candidates will subsequently be examined *viva voce*.

QUESTIONS.

1. In what ways does the size of milling curd affect the texture of the ripe cheese? How would you explain the difference between "texture" and "body"?
2. By what means is it possible to reduce the loss of fat during the manufacture and pressing of Cheddar cheese? When is it most difficult to retain fat?
3. How would you control the type and degree of acidity required in cheesemaking? Why is it necessary to vary the degree of acidity at milling of large and small sized cheeses?
4. What are the essential features of a ripening room for (a) Hard-pressed, (b) Blue-veined cheese? Discuss suitable arrangement of the shelving.
5. Describe methods of making Cream Cheese from cream containing (a) 30% fat, (b) 60% fat.
6. Cheddar cheese is found to bulge during ripening, and has a weak texture and "yeasty" flavour. What methods would you adopt to prevent these faults?
7. What points of manufacture ensure the typical qualities of Cheshire, Derby and Wensleydale cheese?
8. Describe methods of production and handling of milk, on a farm where mixed morning and evening milk is used for hard-pressed cheesemaking.

EXAMINATION FOR BUTTERMILKING CERTIFICATE
AT THE SEALE-HAYNE AGRICULTURAL COLLEGE,
NEWTON ABBOT; ON MONDAY AND TUESDAY, JULY
16TH AND 17TH, 1934.

EXAMINER: J. G. W. STAFFORD.

Three hours are allowed for this paper.

Candidates are requested to make their answers as brief as possible. Each answer should be written on a separate sheet of paper, and the sheets should be fastened together in order in the left-hand corner. The top sheet should bear the name of the Candidate.

Each question carries the same number of marks, and Candidates gaining not less than 60 per cent. will pass.

Candidates will subsequently be examined *viva voce*.

Nine questions only to be answered.

QUESTIONS.

1. Given 500 gals. of milk containing 3.6% fat, how much butter, containing 84% fat, could you obtain and what would be the "Butter Ratio"?
2. Why is it necessary to churn butter to a grain? State the advantages of so doing?
3. What do you consider to be the essential characteristics of a sample of good butter? Give a scale of points suitable for judging butter.
4. How would you proceed to ripen cream for butter-making at a small factory? State the advantages of doing this.
5. What is "Starter"? How is it prepared and how is it used?
6. Describe the process of milk pasteurisation and distinguish between the "Flash" and "Holder" methods.
7. How would you determine whether or not a farmer's milk was in good condition when delivered at the Dairy? Describe any tests you know that would demonstrate to the farmer the condition of his milk.
8. Discuss the value of dairy by-products and state how these could be best used (a) on the farm, (b) at the factory.
9. Make a rough sketch of a cream separator and show how separation of cream from milk takes place. Is it possible to regulate the thickness of the cream, and, if so, how is this done?
10. Give your views on the advantages or disadvantages of the Milk Marketing Scheme: (a) to the Dairy Farmer, and (b) to the commercial butter-maker.
11. Give short notes on the preparation of Devonshire cream and give a scale of points for judging same.
12. State the causes of the following faults in butter:—
(a) Pale colour, (b) Streakiness, (c) Rancidity, (d) Excess of butter milk.

EXAMINATION FOR BUTTERMAKING CERTIFICATE AT
THE STUDLEY COLLEGE, WARWICKSHIRE; ON
MONDAY, TUESDAY AND WEDNESDAY, JULY 23RD,
24TH AND 25TH, 1934.

EXAMINER: MISS D. V. DEARDEN.

Three hours are allowed for this paper.

Candidates are requested to make their answers as brief as possible. Each answer should be written on a separate sheet of paper, and the sheets should be fastened together in order in the left-hand corner. The top sheet should bear the name of the Candidate.

Each question carries the same number of marks, and Candidates gaining not less than 60 per cent. will pass.

Candidates will subsequently be examined *viva voce*.

QUESTIONS.

1. What purpose do the following serve:—(a) Thermometers, (b) Starter, (c) Pasteurisation, (d) Homogenisation, (e) Lactometer?
2. Describe the changes which take place when cream is churned. What conditions influence the length of the churning period?
3. How should a butter churn be cleaned, after use, so as to keep it in good sanitary condition? In the event of serious contamination what treatment would you advise?
4. Why is the separation of cream from milk possible? Name the parts of a separator and briefly indicate the purpose of each.
5. Why is factory butter generally of better quality than the farm-house product?
6. Write short notes on the cause of the following defects:—
(a) Leakiness, (b) Fishiness, (c) Excess moisture, (d) Uneven colour.
7. By what methods can the fat percentage of cream from a separator be regulated? Explain the action of each. If it was necessary to dilute 5 gallons of cream containing 55 per cent. of fat to one containing 30 per cent. fat, how much separated milk would be required?
8. What is meant by "butter-ratio" and "over-run?" Illustrate your answer by suitable calculations.
9. What percentage of fat is found in buttermilk? What conditions will lead to this being unusually high?

EXAMINATION FOR CHEESEMAKING CERTIFICATE AT
THE STUDLEY COLLEGE, WARWICKSHIRE; ON
MONDAY, TUESDAY AND WEDNESDAY, JULY 23RD,
24TH AND 25TH, 1934.

EXAMINER: MISS D. V. DEARDEN.

Three hours are allowed for this paper.

Candidates are requested to make their answers as brief as possible. Each answer should be written on a separate sheet of paper, and the sheets should be fastened together in order in the left-hand corner. The top sheet should bear the name of the Candidate.

Each question carries the same number of marks, and Candidates gaining not less than 60 per cent. will pass.

Candidates will subsequently be examined *viva voce*.

QUESTIONS.

1. Enumerate the different means available for the determination of acidity in the dairy and indicate the limitations of each. What percentage of acidity would be found in :—
(a) New milk; (b) Milk when ready to rennet for making Cheddar; (c) Drainings from Stilton curd after moulding; (d) Whey rising after cutting Curd for Cheshire; (e) Starter?
2. What is starter? What are the indications that a starter is weakening and under what conditions is weakening likely to result?
3. Why should a daily record be kept by a cheese-maker? Rule a simple but efficient Cheddar record. Fill in the entries likely to be found in the record of a 50 cow dairy on a day in April and a day in late September.
4. What is rennet? What is its function in cheese-making and how is its action hastened or retarded? If a supply had been stored for some time how would you determine whether it was fit for use or if its strength had decreased?
5. What are the advantages and disadvantages of farm-house cheese-making compared with the factory method?
6. Give an account of the treatment of cheese during the ripening period. What temperatures and humidities are considered suitable? If the figures were higher or lower than those you give what would be the effect on the ripening of the cheese and the quality of the final product?
7. For what purpose are the following processes carried out :—
(a) Ripening milk for Cheddar; (b) Scalding; (c) Milling; (d) Cooling curd for vating; (e) Waxing; (f) Scraping Stilton; (g) Pricking Stilton.
8. Under what conditions is it an advantage to pasteurise the milk intended for cheese-making? Of the different methods available for pasteurising milk which do you consider the most suitable for use in the cheese dairy? Give reasons for your choice.

EXAMINATION FOR BUTTERMAKING CERTIFICATE AT
THE AGRICULTURAL INSTITUTION, USK, MONMOUTH-
SHIRE; ON MONDAY, TUESDAY AND WEDNESDAY,
AUGUST 13TH, 14TH AND 15TH, 1934.

EXAMINER :
MISS A. SHEPPARD.

Three hours are allowed for this paper.

Candidates are requested to make their answers as brief as possible. Each answer should be written on a separate sheet of paper, and the sheets should be fastened together in order in the left-hand corner. The top sheet should bear the name of the Candidate.

Each question carries the same number of marks, and Candidates gaining not less than 60 per cent. will pass.

Candidates will subsequently be examined *viva voce*.

QUESTIONS.

1. Why is the production of clean milk so essential ? How would you advise a farmer to produce clean milk from his herd, with the minimum expenditure ?
2. What apparatus would be required in a dairy where 10 gallons of milk is to be separated daily and manufactured into butter ?
3. What type of churn do you prefer ? How would you prepare a new churn and worker for use ?
4. Give the names of the breeds of cattle whose milk is the best for buttermaking. Why is this so ? What is the butter ratio of Shorthorn milk ?
5. Draw a sectional diagram of a supported separator bowl. Why is the centrifugal separation of milk so universal ?
6. Define the following :—Clotted Cream, Sterilised Cream, Double thick Cream.
7. What constitutes a good sample of butter ? How would you allocate points when judging samples of butter ?
8. Give the advantage of ripening cream for buttermaking. Give the approximate acidity of cream for churning. How may over acidity affect the finished butter ?
9. Give one method of estimating the fat content of milk. Knowing the fat content and the lactometer reading, how could the total solids be estimated ? Why is the lactometer alone not reliable for estimating the quality of milk ?
10. An analysis of a sample of butter shows the following percentage of constituents :—Fat 78%, Water 17.4%, Protein 4%, Ash .6%.
Give probable errors in manufacture which would give the above results.

EXAMINATION FOR CHEESEMAKING CERTIFICATE AT
THE AGRICULTURAL INSTITUTION, USK, MONMOUTH-
SHIRE; ON MONDAY, TUESDAY, AND WEDNESDAY,
AUGUST 13TH, 14TH AND 15TH, 1934.

EXAMINER : MISS A. SHEPPARD.

Three hours are allowed for this paper.

Candidates are requested to make their answers as brief as possible. Each answer should be written on a separate sheet of paper, and the sheets should be fastened together in order in the left-hand corner. The top sheet should bear the name of the Candidate.

Each question carries the same number of marks, and Candidates gaining not less than 60 per cent. will pass.

Candidates will subsequently be examined *viva voce*.

QUESTIONS.

1. What are the advantages of bandaging hard pressed cheeses. How would you treat (a) Cheshire, (b) Cheddar, (c) Wensleydale, (d) Stilton, from the time it is put into the mould until taken to the ripening room?
2. Give the essentials which ensure the successful manufacture of Colommier cheeses. Under what conditions would you advise a dairyman to make these cheeses?
3. How would the following affect the appearance of a Cheddar cheese during ripening :—
 - (1) Milling at .45% acidity.
 - (2) Moulding the curd at a temperature of 50°F.
 - (3) Milk having .35% acidity before renneting.
4. Define a starter, and its advantages in cheesemaking. How would you ensure its activity in daily use?
5. How would you test a sample of milk for fat and acidity?
6. How would you handle the milk from 20 cows
 - (a) When sold as Certified Milk.
 - (b) „ „ „ „ Grade A Milk.
 - (c) When made into Butter on the farm.
 - (d) „ „ „ „ Cheese on the farm.
7. How would you manufacture whey butter, and what quantity of whey butter would you expect from 5,000 gallons milk made into cheese daily?
8. What are the difficulties likely to be encountered when making hard pressed cheeses with milk containing over 5% fat? How would you vary your method of manufacture in order to make a good cheese?
9. Define the following :—Annatto, Rennet, Separated Milk, Whey.
10. What factors in manufacturing and storing are necessary to ensure the correct ripening of a blue veined cheese.

EXAMINATION FOR CHEESEMAKING CERTIFICATE
AT THE SEALE-HAYNE AGRICULTURAL COLLEGE,
NEWTON ABBOT ; ON THURSDAY AND FRIDAY,
AUGUST 30TH AND 31ST, 1934.

EXAMINER : J. G. W. STAFFORD.

Three hours are allowed for this paper.

Candidates are requested to make their answers as brief as possible. Each answer should be written on a separate sheet of paper, and the sheets should be fastened together in order in the left-hand corner. The top sheet should bear the name of the Candidate.

Each question carries the same number of marks, and Candidates gaining not less than 60 per cent. will pass.

Candidates will subsequently be examined *viva voce*.

QUESTIONS.

Nine questions only to be answered.

1. Write what you know about the manufacture of rennet and state how you would determine the strength of a given sample.
2. Give details of the manufacture of a Cheddar Cheese.
3. How would you determine the acidity of :—
 - (a) milk previous to rennetting.
 - (b) Cheddar curd at milling.
 - (c) Stilton curd at moulding ?
4. How much whey butter would you get from 100 gallons of whey and what precautions are necessary in order to turn out a good quality article ?
5. Would the general appearance of cheese in the ripening room give any indication as to its quality ? Discuss this.
6. Would you vary temperature and acidity in cheese making in Spring and Autumn respectively and if so, why ?
7. How is it that so much spring made cheese is dry and chalky ? How can this difficulty be overcome ?
8. Sketch a Cheese Press and show by a simple calculation how to ascertain the pressure on cheese.
9. What weight of ripe Cheddar and Stilton Cheese would you expect to get from 100 gallons of average quality milk in September ? How do you account for the difference ?
10. If you were manager of a cheese factory dealing with 800 gallons of milk daily, what return would you expect to get, for the month of June, if your cheese sold at 56/- per cwt ? Show the cost of manufacture and also suggest a method of disposing of your whey.
11. Give a scale of points suitable for judging Cheddar Cheese.
12. Discuss the possibilities of developing the Soft Cheese trade on a commercial scale. What points would require special attention in order to make this a success ?

EXAMINATION FOR BUTTERMILKING CERTIFICATE AT
THE BRITISH DAIRY INSTITUTE, READING; ON
MONDAY, TUESDAY AND WEDNESDAY, SEPTEMBER
10TH, 11TH AND 12TH, 1934.

EXAMINER :

MISS M. C. TAYLOR.

Three hours are allowed for this paper.

Candidates are requested to make their answers as brief as possible. Each answer should be written on a separate sheet of paper, and the sheets should be fastened together in order in the left-hand corner. The top sheet should bear the name of the Candidate.

Each question carries the same number of marks, and Candidates gaining not less than 60 per cent. will pass.

Candidates will subsequently be examined *viva voce*.

QUESTIONS.

1. What do you consider are the most important points while making butter as a Competitor at a Show ?
2. You are given four gallons of freshly separated cream. How would you manage same to produce first class butter ?
3. What effect have indifferently prepared utensils on the finished Butter ?
4. Why is it that New Zealand butter commands such a high position on the English Market ?
5. Why is it Bac. Coli is such an enemy in the manufacture of Dairy Products ?
How would you detect it in your milk supply ?
6. What effect has too much moisture in butter ?
How do you control this in manufacture ?
7. How would you most economically deal with the bye-products of a butter-making dairy ?
8. State your ideas as to methods you would introduce to popularise milk as a food.

EXAMINATION FOR CHEESEMAKING CERTIFICATE AT
THE BRITISH DAIRY INSTITUTE, READING; ON
MONDAY, TUESDAY AND WEDNESDAY, SEPTEMBER
10TH, 11TH AND 12TH, 1934.

EXAMINER :

MISS M. C. TAYLOR.

Three hours are allowed for this paper.

Candidates are requested to make their answers as brief as possible. Each answer should be written on a separate sheet of paper, and the sheets should be fastened together in order in the left-hand corner. The top sheet should bear the name of the Candidate.

Each question carries the same number of marks, and Candidates gaining not less than 60 per cent. will pass.

Candidates will subsequently be examined *viva voce*.

QUESTIONS.

1. What quantity of Starter would you use in making up 200 gallons milk daily into Cheddar Cheese? What do you consider is the best length of time to ripen your milk before rennetting?
Why is it necessary in practice to vary these times?
2. What steps would it be necessary for a practical farmer to take to produce milk of an Accredited Standard?
3. Why is press work so important in the making of Cheddar Cheese?
Sketch a cheese press and state pressure required for a 90 lb. cheese.
What is the cause of black veins on the rind of a ripened Cheddar Cheese?
4. What do you consider is the best material (metal) for dairy equipment? Give reasons for your choice.
5. Do you consider it right to make hard and fast rules for cheese-making in different parts of the Country or would you alter your manufacture as you found necessary?
What should be your aim in the finished product?
6. Describe the difference between "Sterilised Milk" and "Pasteurised Milk" for sale.
7. Write an account of the making of Stilton Cheese.
What are the characteristics of a ripe Stilton?
8. What effects have the following foods on milk :—
(a) Mangels, (b) Maize Meal, (c) Cabbage?

The British Dairy Farmers' Association

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 Chalk, Vernon Beecher, Beckenham, Kent.
 Chalker, J. W. S., Hinton Farm, Hurst, Twyford, Berks.
 Champion, R. W., Redroof, West Town Lane, Knowle, Bristol.
 Chaplin, Col. J., The Brow, Overton, Ellesmere, Salop.
 Chapman, Frederick, Chevet Grange, Wakefield.
 Chapman, Miss F., High Cross House, Hill Top, Knottingley, Yorks.
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 Cheke, Miss V. E., The Cockpit, Fair Oak, Hants.
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 Clark, Thomas, Beeches Farm, Botcherby, Carlisle.
 Clarke, E. W., Chilborough House, Aylesbury, Bucks.
 Clarke, R. W., 14, Richmond Hill, Richmond, Surrey.
 Clarke, Lt.-Gen. Sir Travers E., G.B.E., K.C.B., K.C.M.G., 22, Sloane Gardens, S.W. 1.
 Clarke, Col. Stephenson R., C.B., J.P., Borde Hill, Cuckfield, Sussex.
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 Clay, Col. H. H. Spender, C.M.G., Ford Manor, Lingfield, Surrey.
 Clayton, G. S., St. Anne's Works, St. Anne Street, Limehouse, E. 14.

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- Coates, Richard, Summerford, Withyham, Sussex.
- Cobb, F. H., Ards, The Dane, Margate.
- Cochrane, A., Nether Craig, Kilmarnock (L.M.).
- Cochrane, J., West of Scotland Agricultural College, Auchincruive.
- Cochrane, John, Byreholm, Thornhill, Dumfriesshire (L.M.).
- Cochrane, M., Catlins, Lockerbie, Dumfriesshire.
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- Cohen, Lt.-Col. C. Waley, C.M.G., Nyton, Aldingbourne, near Chichester.
- Cole, G. H., Adley, Chagford, Devon.
- Cole, G. R., Home Farm, Over Compton, Sherborne.
- Cole, W. E., 28, Norfolk Lane, Sheffield.
- Colebrook, W. M., Ravenscroft, Hook Heath, Woking.
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- Collett, Miss Phillis C., The Cove, Torcross, Kingsbridge, S. Devon.
- Collings, J. H. V., Guernsey Dairy, Middleton, Bognor Regis.
- Collins, Rev. R. L., St. Luke's College, Exeter.
- Collins, W. H., Whitehouse Farm, Bruton, Somerset.
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- Compton, A. H., 136, Kensington Park Road, London, W. 11 (L.M.).
- Comyns-Lewer, Mrs. E., *The Feathered World*, 9, Arundel Street, Strand, London, W.C.2.
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- Cook, William H., Cook's Poultry Farm, Ltd., Orpington, Kent.
- Cookson, E. A., Minshull Hall, Middlewich.
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- Copley, S. W., Deacons Hill, Elstree, Hertfordshire.
- Corbett, Mrs. Lionel, Hockley House, Alresford, Hants.
- Corbett, R. A., Compton Scorpion, Shipston-on-Stour.
- Corfield, Capt. R., Imperial Works, Morden Road, Mitcham (L.M.).

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 Cornish, Mrs. C. J., Steyne, Bembridge, Isle of Wight.
 Corrie, Harold, Heath House Farm, Lowfield Heath, Surrey.
 Coryton, Capt. J. T., Pentillie Castle, St. Mellion, Cornwall.
 Cory-Wright, Mrs. A., Northfields, Sawbridgeworth, Herts.
 Courtenay, Major P. D. A., Greenlawn, Burnham-on-Sea, Somerset.
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 Cox, Miss M. E., Rothesay, Amington Road, Tamworth, Staffs.
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 Crawford, J. B., Hall, Auchencairn, by Castle Douglas.
 Crawford, Walter C., Chappmanton, Castle Douglas.
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 Cross, J. L., Catthorpe, Rugby.
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 Crowe, John, The Manor, Ashe, Overton, Hants.
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 Dale, J., & B. M., Felhampton Court, Church Stretton, Salop.
 Dale, J. D., Grange Farm, Lebberston, Filey, Yorks.
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 Dalrymple-Hamilton, Col. N., Bargany, Girvan, Ayrshire (L.M.).
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 Davies, J. E., 10 & 11, Dukes Road, Tavistock Square, W.C. 1.
 Davies, Miss M., Croylos, Heraithog, Ruthin.
 Davies, Dr. W. L., National Institute for Research in Dairying, Shinfield, near Reading.
 Davies-Cooke, Miss M., The Farm Institute, Sparsholt, Winchester.
 Davis, Colonel W. N., O.B.E., J.P., Salt Hill House, Slough, Bucks.
 Davis, H. E., New Zealand Dairy Produce Board, St. Olaf House, Tooley Street, London, S.E. 1.
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 Dawson, George (Dawson Bros.), Leeds, Yorks.
 Dawson, Miss E. M., 1, College Hill, Shrewsbury.
 Dawson, Mrs. J. E. Finch, Burwain Hall, King's Meaburn, Penrith.
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 Day, Charles T., 1, Rossington Street, E. 5.
 Day, Major E. C., Merrington Place, Rolvenden, Kent.
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 Day, Son, & Hewitt, 22, Dorset Street, London, W.1.
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 Dearnaley, J., London House, Glossop.
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 de Ferranti, Mrs. G. Z., Wood Green Farm, Upper Basildon, Pangbourne.
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 Denman, T. H., Netley Court, Netley Abbey, Southampton.
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 Dennis, J. T., Winsor, Yealmpton, Devon.
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 de Wackenfelt, M., Swedish Legation, 27, Portland Place, W.1 (H.L.M.).
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 Drakeley, Dr. T. J., D.Sc., Ph.D., F.I.C., F.C.S., F.I.R.I., 69, Rosebery Road, Muswell Hill, London, N. 10.
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 Drew, O. W., Romney, Woodley, Reading.
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 Drummond, J. N., Bargower, Hurlford, Ayrshire.
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 Dryden, Mrs. S. M., Cooper House Poultry Farm, Kibblesworth, near Gateshead.
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 Dunlop, Quintin, Greenan, Ayr.
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 Dutton, B. T., Brindley Hall, Nantwich, (L.M.).
 Dutton, S. L., Woodside, Wattenhall, Winsford, Cheshire (L.M.).
 Dyer, W. T., Grauntcourts, Rayne, Essex.

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 Earle, Miss M. W., Westerland House, Marlton, Paignton.
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 Easton, Edward G., 43, Gt. Tower Street, London, E.C. 3.
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 Edwards, A. J., 37, Woodland Road, Loughton, Essex.
 Edwards, A. R., Tynewydd, Castleton, Cardiff (L.M.).
 Edwards, Henry, Hofland Road, West Kensington, London, W. 14.
 Edwards, J., School of Agriculture, The University, Cambridge.
 Edwards, Miss Katie, The Mardy, Pencoe, near Bridgend.
 Edwards, Sidney, Tynewydd, Castleton, Cardiff.
 Egerton, J. R., Malpas Cottage, Rushmere, Ipswich.
 Elce, Mrs. Amy, Barings Field, Newdigate, Surrey.
 Ellinger, Prof., Landbohøjskole, Copenhagen (H.M.).
 Elliot, H. G., Brook House Farm, Ardingly, Sussex.
 Elliott, C. C., Oxleys Farm, Wing, Leighton Buzzard.
 Ellis, Robert, Standard Works, Annan, Scotland (L.M.).
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 Enock, G., Margaret Street Works, Windus Road, N. 16 (L.M.).
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 Errington, Roger, Victoria Mills, Sunderland.
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 Evans, Capt. J. F., Sugley Farm, Nailsworth, Glos.
 Evans, E. A., United Dairies, Ltd., 34, Palace Court, W. 2.
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 Evans, Richard H., Barclays Bank Chambers, Pwllheli, Carnarvonshire.
 Evans, Miss R. M., Agricultural Offices, Lampeter, Cardiganshire.
 Evens, John, J.P., Burton, Lincoln.
 Evens, John, junr., Burton, Lincoln (L.M.).
 Evens, Thomas, Ramsland, Yealmpton, Devon.
 Everard, W. Lindsey, Ratcliffe Hall, Leicestershire (L.M.).
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 Fairhead, T. G., Little Chesterford, Saffron Walden, Essex.
 Fairweather, E. D., Grange Home Farm, Northington, Alresford, Hants.
 Fane, J. Onslow, Steventon Manor, near Basingstoke (L.M.).
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 Farmer, John T. H., Devonian, Cippenham, Slough, Bucks.
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 Farrer, Miss B., The Grange, Kenninghall, Norwich.
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 Fawkes, Tennyson, Church Farm, Leonard Stanley, Stonehouse, Glos.
 Fazan, Miss F. A., 1, Amherst Road, Bexhill-on-Sea.
 Fearis, L. H., Barnwood Lodge, Hucclecote, Gloucester.
 Fearnall, P., Calverhall, Whitchurch, Salop (L.M.).
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 Fisher, Fred T., 110, Fenchurch Street, E.C. 3.
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 FitzGerald, Sir John, Bart., M.C., Warren House, Stanmore.
 FitzHugh, G. E., Plas Power, Wrexham.
 FitzRoy, Capt. The Hon. E. A., M.P., Fox Hill, West Haddon, Rugby.
 Follett, Lt.-Col. H. S., C.B.E., Rockbeare Manor, near Exeter.
 Foot, Asher, The Poplars, Rotherwick, Hants.
 Foot, A. S., National Institute for Research in Dairying, Shinfield, Reading.
 Foot, Mrs. R. M., White Hill, Berkhamsted (L.M.).

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 Fortescue, George G., Boconnoc, Lostwithiel, Cornwall.
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 Fowler, W. Herbert, J.P. (L.M.).
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 Francis, F. S., Wilkin Throop Farm, Templecombe, Somerset.
 Franklin, Mrs. C., Chartridge Lodge, Chesham, Bucks.
 Franklin, H., Coltsfoot Farm, Datchworth, Herts.
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 Garner, Frank H., University Farm, Huntington Road, Cambridge.
 Garnett, G., The Park, Eccleshall, Bradford.
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 Garrard, F. R., The Hall, Framlingham, Suffolk (L.M.).
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 Gee, George, Mayford House, Mayford, near Woking.
 Gerrard, Miss A., Huddington, Droitwich.
 Gerrard, Miss N., "Sulby," Knowsley Road, Rainhill, Lanes.
 Gibson, Mrs. M., Knapp Farm, Whitestaunton, near Chard, Som.
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 Gilbert, F. W. H., junr., The Manor, Chellaston, Derby.
 Gilbert, W. H. R., The Cottage, Aston Flamville, Hinckley.
 Giles, Henry, Stockers Farm, Rickmansworth, Herts.
 Gillard, R. H., South Cadleigh, Ivybridge, Devon.
 Gillate, E. Uwins, Shawlands, Lingfield, Surrey.
 Gillett, Arnold, Ridgewood, Chorley, Lanes.
 Gilliland, J., Grassmillees, Mauchline, Ayrshire.
 Gilmour, A., West Crosshill, East Kilbride, Lanarkshire.
 Gisborne, Col. L., C.M.G., Lingen Hall, Brampton Bryan, Herefordshire (L.M.).
 Gittins, William H., The Hall Farm, Ruyton Eleven Towns, Shropshire.
 Glazebrook, R., The Lydiat, Willaston, Cheshire.

- Glazebrook, W. R., Manley Hall, Overton Bridge, Wrexham.
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 Goodwin, P., Bubney, Whitchurch, Salop.
 Goodwin, Thomas C., Leighton Grange, Crewe.
 Goodwin-Courtman, E. G., Universal Farm Requisite Stores, Newnham, Glos.
 Gordon, A. W., Letton Hall Home Farm, Shipdham, Norfolk.
 Goschen, Sir Harry, Bart., Durrington House, Harlow, Essex.
 Gosney, G. F., Room 234, Shell Mex House, Victoria Embankment, W.C. 2.
 Gould, R. P., Beech Croft, Costessey, Norwich.
 Grabham, A., 139, Englefield Road, Essex Road, London, N. 1.
 Grace, E. G., 6, Bridge Street, Bristol.
 Graham, J. C., Marielyn, Little Crosby Road, Gt. Crosby, near Liverpool.
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 Sanderson, F. H., Eshott Hall, Felton, Northumberland.
 Sanderson, Miss W. J., Underwood, Riding Mill, Northumberland.
 Sandwich, Earl of, Hinchbrook, Huntingdon.
 Sankey, G. C., Down Lodge, Fairlight, Hastings.
 Sargent, Miss M. H., 38, Flora Avenue, Darlington.
 Savill, P. R. L., Welford Grange, near Rugby.
 Savory, A. J., Highfields, Gt. Ryburgh, Norfolk.
 Scalford Dairy Co., Ltd. (represented by G. M. Kirk), Scalford, Melton Mowbray.
 Scatchard, T., 6, Commercial Street, Harrogate.
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 Scott, G. A., Frome Cliff, Stapleton, Bristol.
 Scott, H. H., Hartwell, Hartfield, Sussex.
 Scott, L., Worlington Poultry Farm, Mildenhall, Suffolk.
 Scott, R., Manchester House, Lea Brooks, Alfreton, Derbyshire.
 Scottish Milk Marketing Board (represented by T. S. Henderson), 95, Bothwell Street, Glasgow, C. 2.
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 Seymour, Major Sir Edward, Iver Lodge, Iver, Bucks.
 Shanks, Robt., Halland Park, East Hoathly, Sussex.
 Shapland, G. F. D., Green Farm, Claverham, near Bristol.
 Shapland, James L., Chaldon Court, near Caterham, Surrey.
 Sharp, Sir Herbert, Bart., Morley Poultry Farm, Hasketon, Suffolk.

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- Shaw, J. K., Public Health Office, Town Hall, Wallasey, Cheshire.
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- Sheldon, T. H., Cotham Manor, Newark, Notts.
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- Shelley-Rolls, Sir John C. E., Bart., Avington, Alresford, Hants.
- Sheppard, Miss A., British Dairy Institute, Reading.
- Shirley, J. W., Silverton House, Woughton, Bletchley, Bucks.
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- Shuttleworth, R. Kay, Meads Place, Eastbourne (L.M.).
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- Slattery, Miss N., 56, Lady Margaret Road, London, N.W. 5.
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- Smart, W. H., & Co., Ltd. (represented by W. H. Smart), Wrentham Street, Birmingham.
- Smith, A., East Sussex Milk Recording Society, 197, High Street, Lewes.
- Smith, A. D. B., Animal Breeding Research Dept., West Mains, Edinburgh (L.M.).
- Smith, Clement C., Walton Hall, Felixstowe.
- Smith, David, Kilmaurs Mains, Kilmarnock.
- Smith, Eustace Abel, Longhills, Lincoln (L.M.).
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- Stapleton, J. Gillard, Owles Hall, Crews Hill, Middlesex.
- Stapleton, Mrs. J. G., Owles Hall, Crews Hill, Middlesex.
- Stapleton, Mrs. Hugh, Hilden, Lymington, Hants.
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 Turner, James, Loaninghead, Balfour Station, Stirlingshire.
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 Vincent, Frederick, Oak Farm, Northill, Biggleswade, Beds.
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 Walker, E. O. F., The Hollies, Chew Stoke, near Bristol.
 Walker, F., Russia Hall, Tattenhall, Cheshire.
 Walker, Harold, Marley Brow Farm, Bingley, Yorks.
 Walker, H. E., The Farm, Llanedarne, near Cardiff.
 Walker, Lt.-Col. H. S., Park House, Wortley, near Sheffield.
 Walker, R., Hatton Hall, near Chester.
 Walker, R. F., Home Farm, Gravetoe, East Grinstead.
 Walker, S. E., Tilstock Road Farm, Whitechurch, Salop.
 Walker & Son (represented by H. J. Walker), 4, Cheapside, Leicester.
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 Wallace, J., Low Ersock, Whithorn, Wigtownshire.
 Wallace, J. & R., The Foundry, Castle Douglas.
 Wallace, Miss M. S., Dairy School, Kilmarnock, Ayrshire.
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 Wallace, Robert, Cherry Tree Hall, Datchworth, Herts.
 Wallace, Samuel, Bedwell Park Farm, Hatfield, Herts.
 Wallace, Walter, Knebworth, Herts.
 Wallace, William E., Poplar Farm, Eaton Bray, Dunstable.
 Walley, A. E., Bickerton Hall, Malpas, Cheshire.
 Walley, P. H., Towns Green Farm, Wettenhall, Winsford.
 Walmsley, B., Skeynes, Edenbridge, Kent.
 Walter, Edward, Little Sharpshaw Farm, near Frome, Som.
 Walters, R. S., Norfolk Lodge, Sutton Coldfield, Warwickshire.
 Walton, J. H., Thurston Hall, Framfield, Sussex.
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 Warren, F. C., 115, High Road, South Woodford, Essex.
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- Watts, Col. Humphrey, O.B.E., T.D., Haslington Hall, near Crewe.
- Watts, William, Ty-draw, Llantrithyd, Cowbridge, Glam.
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- Welford, J. B., Ashridge, Cookham, Berks.
- Welford, Sydney, 277/9, Kentish Town Road, London, N.W. 5.
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- Weston, J., Bell-o'-th-Hill Farm, Tushingham, Salop.
- Westropp, C. H., Melford Place, Long Melford, Suffolk.
- West Somerset Dairy and Bacon Co., Ltd. (represented by J. Cottrill), Greenway Avenue, Taunton.
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- Wheatley, E. H., Cliftonthorpe, Ashby-de-la-Zouch.
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- Wheeler, J. W., Baltic Avenue, Southend-on-Sea.
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- White, E., Manor Farm, Motcombe, Shaftesbury.
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- White, Sir G. Stanley, Bart., Hollywood Tower, near Bristol (L.M.).
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- White, Thomas, Hightae, Castle Douglas.
- White, W. A., Woodfold, Down Hatherley, Gloucester.
- White, W., & Son, Pool Farm, Taunton.
- White, W. B., & Sons, Lower Farm, Anstey, Dorchester.
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- Whitley, William, Barton Pines, Blagdon, Paignton, South Devon.
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 Williams, Mrs. John, Scorrier House, Scorrier, Cornwall.
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 Willis, G. H., Ivy Lodge, Birdlip, Glos.
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 Women's Farm and Garden Association (represented by Miss A. Vanderpant),
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 Woodley, A. D., Ltd., Little John's Farm, Reading.
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Wright, E. E., The Mount, Wirswall, Whitchurch, Salop.
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ABBREVIATIONS—(H.L.M.), Honorary Life Member. (H.M.) Honorary Member.
(L.M.) Life Member.

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- Poultry Club. Secretary, William Rice, F.L.S., F.B.S.A., 3, Ludgate Broadway, London, E.C. 4.
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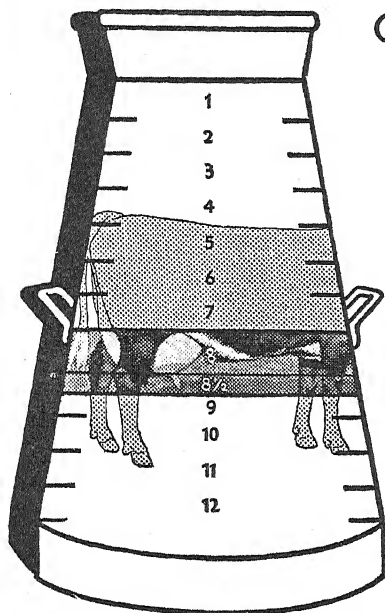
- Scientific Poultry Breeders' Association. Secretary, T. Newman, Rudgwick, Horsham, Sussex.
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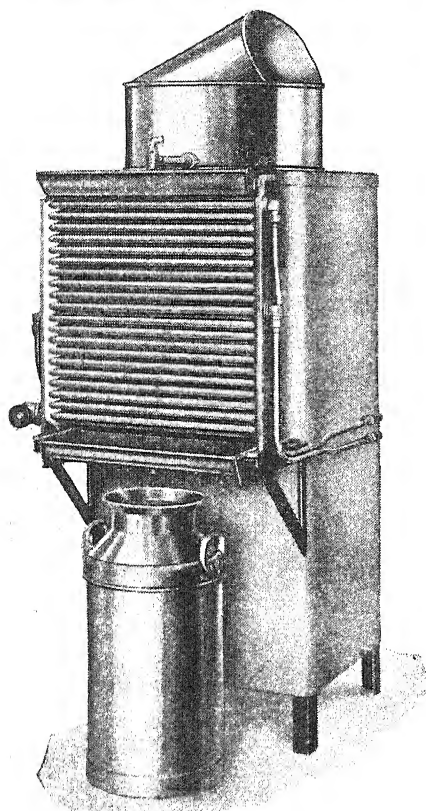
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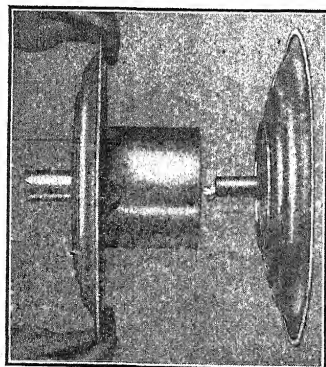
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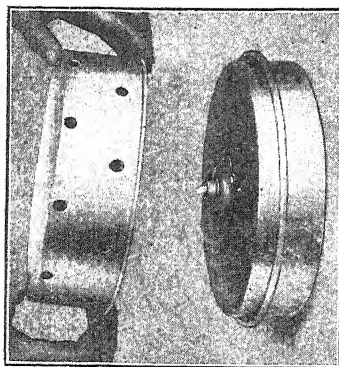
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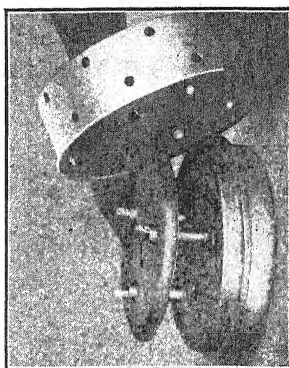
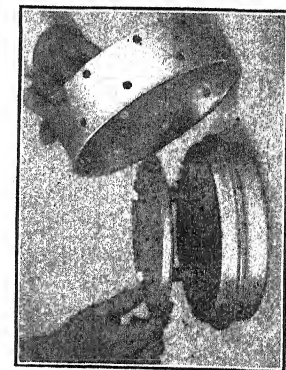
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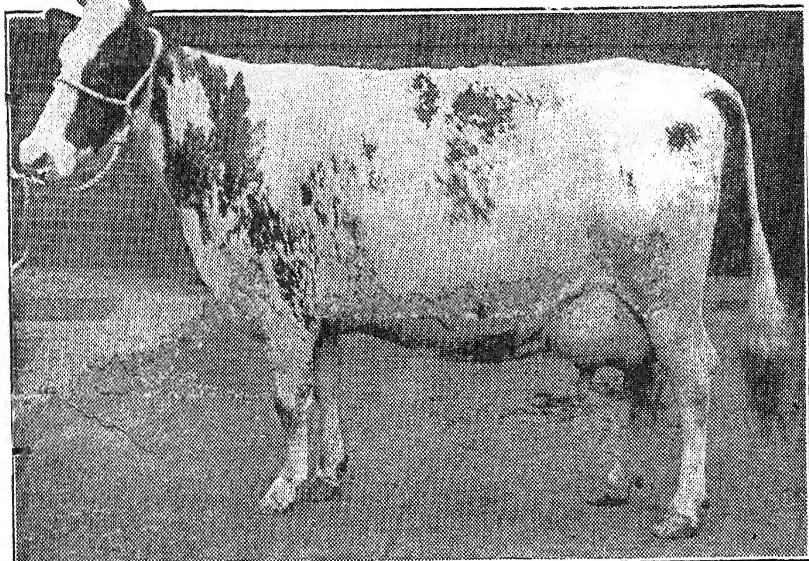


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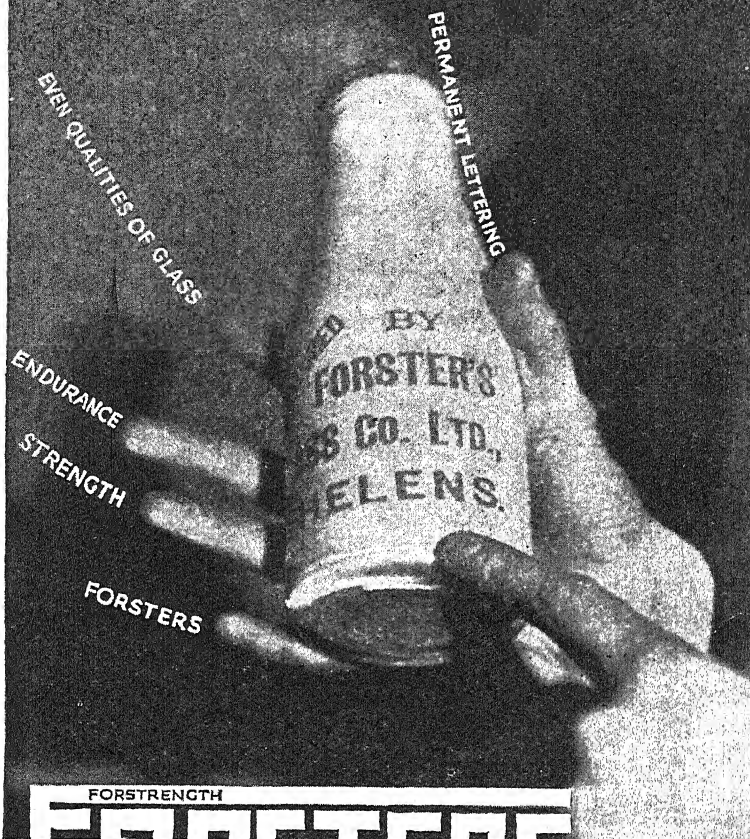
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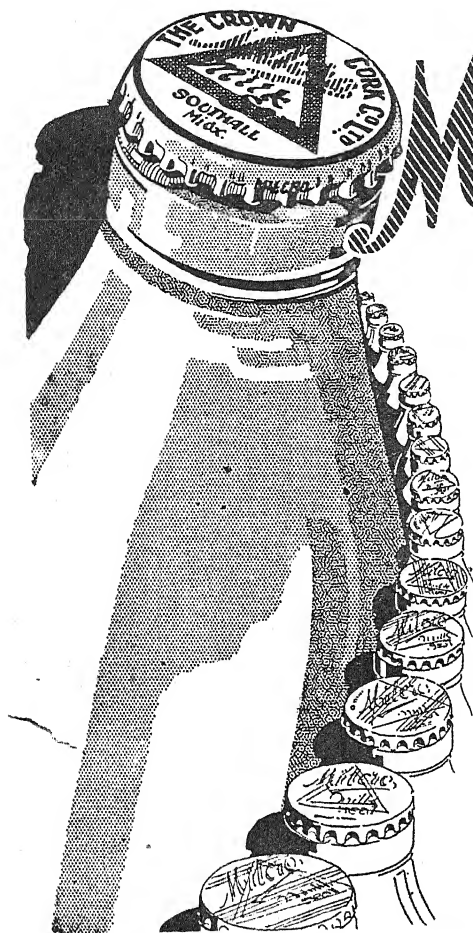
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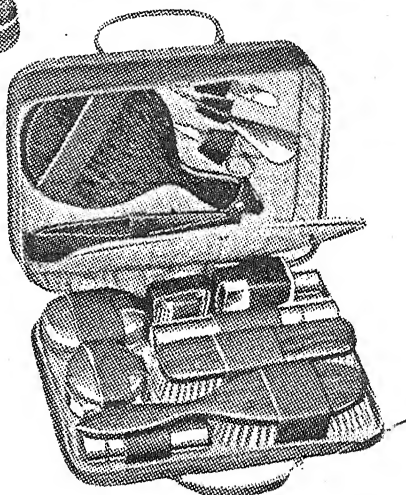
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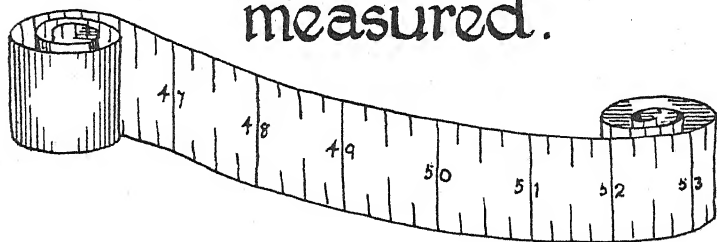
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